THE BUILDER

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THE FUTURE OF HOUSING SCHEMES.

THE formation of a club to "enlarge public appreciation of good architecture and the allied arts" has given the newspapers an opportunity to make some observations upon the Government housing scheme. If—as they say—"a country gets the architecture as it gets the politicians it deserves," we would reply that the analogy has some significance when the "political house" gives us both at once. We give the following extract from a daily newspaper: "Members of the Architectural Club have seen some of the houses already set up—mis-begotten creatures of a mean imagination, that certainly did not worship the beautiful or reverence posterity. What plans, if any, has the new brotherhood in art with regard to the houses still to come?" Our readers who have memories of the remarkable attack made upon the housing work carried out by the architectural profession must feel that criticisms such as these are like rubbing salt into the wounds. We hear that the tenants of the new Corporation houses on the Gorton Mount Estate, Manchester, have refused to pay eighteenpence a week for the privilege of having a central hot-water supply. We understand that the tenants fully appreciate all the advantages of having hot water on tap all day long, but the plain fact is that many of them cannot afford to pay the extra charge. Anyone having read "The Smokeless City" will feel the hopelessness of some things under modern civilisation. In this, and in other directions, we are brought face to face with this significant fact, that many of the municipal houses are beyond the reach of the ordinary artisan for whose relief they were primarily intended. This is a social problem, or an economic problem, whichever way we choose to look at it, and though everyone pretends to have tacitly agreed to forget about the discrepancy in the balance-sheet, it is nevertheless a disturbing factor in the problem. Already we hear many tenants have given up the struggle and reverted to their original overcrowded houses, while their places are being taken by what we now term the "lower middle-class." Two or three years ago there were interesting speculations as to the future of these municipal houses, the general opinion being that the rents would drive out the wage-earner and bring in the salaried man. State-aided philanthropy is, it appears, a poor thing to rely on; it was unfair to promise houses in the heat of political enthusiasm, and neglect to add that the ability to pay rents regularly was as important as a Service qualification. In these developments we see an extension of the artificial conditions set up by the control in rents and houses when the inevitable trade depression following the boom brought on domestic difficulties, and made confusion worse for a time. A workman cannot pay an abnormal rent at any time, far less when he is out of employment, and an extra eighteenpence in these times may be impossible for him. If it is not a platitude that the great problems of public health and medicine have never been solved by the medical profession alone, we can safely assert that the social and domestic problems of housing never can be solved by speculative builders, estate agents, or local councillors. The designing of workmen's houses in the future—and, in fact, most houses—ought to become more and more a matter of specialised judgment based upon special knowledge. House-building in the future ought to be more of a science—though not an exact science—and it will alter as it moves along progressive lines. At the moment there are too many people interested in setting up their own conditions; there are too many broken threads lying about, and the whole problem requires co-ordinating if we are to expect any success in the future.

It may safely be assumed that the client who consults an architect has the opportunity of stating his requirements and getting them satisfied. His habits, his likes and dislikes, are conveyed to the architect; but it is a different matter designing houses to suit a class of people who have no direct say in the designing. We cannot interfere with the liberty of the individual in his own house, but neither is it possible to suit everyone whose habits are different, and perhaps good or bad. The only definite line which can be taken, after carefully studying the customs of a particular district, is to realise that certain types and classes of people must be compelled to accept certain conditions for their own and the community's sake. Up to a point this attitude seems to have been observed and tacitly accepted until the failure of the housing scheme let loose a mass of irrelevant criticism.

The plain man may not understand the philosophy which demonstrates the penalties arising from confused thinking; he takes the short cut, and recollects that in pre-war days he was supplied with a house which, if it was not exactly what he wanted, at least suited his pocket, and there was one Government department the fewer to support. This is precisely the state of mind which the various parties interested in housing have encouraged and pandered to, so that the death of the housing scheme may at least be welcomed if it does not pass unnoticed. In the background is the speculative builder formulating criticism, but waiting for favourable economic conditions. Apparently he will be welcomed with open arms by the Ministry of Health, and he will proceed to show what he thinks of "fads and frills," and will give us back the rows of "nice bay windows" looking into each other to get a better view of the enamelled flower-pot and the aspidistra.

In our opinion the failure of the Government housing scheme does not prove that better conditions of housing will be economically impossible; it represents the tragedy of political housing as a national scheme carried out by the State. It merely proves an old-established fact that a Government may legislate wisely yet prove incapable of handling a business successfully. Success—in the financial sense—was hopeless from the beginning; houses were built (or, if it is preferred, had to be built) when the free play of economic forces was restricted by Government controls; the trade depression which follows a boom, and the domestic difficulties which follow trade depression, have exaggerated the absurd economic basis of prices upon which the houses were built, and complicated the whole problem. It seems fairly evident that the Government miscalculated the economic situation all round, but lack of knowledge should not be reckoned against the housing schemes if the matter is to be assessed with justice.

Anyone who is interested in the future of housing will be more concerned about the intentions of the Government than with its failures in the past. Both evidence and inference convince us that the attitude of the Government towards housing in the future is not promising. We have indicated several developments to show that the whole housing problem is in chaos, partly caused by the initial failures, but mostly the result of apathy and inability to appreciate the real significance of the failures. All hope of "houses for heroes" has long since gone, but if our politicians have forgotten their early enthusiasm for this flamboyant phrase, there is still a need to provide houses of some sort for those who are not heroes. With a little more understanding, a little more patience, and a little more faith, we may yet reap the results of the housing scheme, but if the Government abandons everything as lost the failure will be real.

Last week and again here we have confined ourselves to the financial aspect, which is not only a stumbling-block in the way of any constructional art, but marks the stage where architecture divides, the main stream passing through the hands of the so-called practical man. There are such things as practical imagination, amenities which ought to be preserved; and these things, like works of art, cannot be translated into figures. The real judge of houses and housing would agree with Bergson, if he happened to hear of what that philosopher has said about the impossibility of measuring the things that matter.

It may be that the housing scheme represents a sudden development, or an advance which is too big to be easily maintained, but even granting this contention it is surely an illogical proceeding to abandon everything—including one's principles—for that reason. The Ministry of Health was given an opportunity to carry out some valuable pioneer work, but the doubt is which generation is likely to obtain the benefits.

NOTES.

The Neglect of Beauty by the Church.

A correspondent of the *Times*, in an account of the nature of the subject matter at the present Church Congress, tells us that it will dwell on the essentially religious rather than the social side, and suggests that this may keep a few people away who have been accustomed to look for controversy or "who have been concerned only with the relation of the Church to the arts." We know that at the present time almost religious importance is given by great writers to the place of beauty, which has not been altogether welcome to a section of the church, and the writings of Mr. Clutton Brock and others on the subject are regarded as bestowing too much importance on it. It would appear to arise out of a fear that art might lessen the Church's prerogatives; but how mistaken is the point of view! In our opinion it is hardly possible to exaggerate the importance of art in such a connection. But if we are concerned to contrast orthodoxy against beauty, and by such means we lose sight of the larger catholicity that binds art, we shall not know it when we see it, and the clergy are, unfortunately, a little afraid of art. The Church and the nation possess a great inheritance of beauty in churches and cathedrals, and the countless forms of which beauty has taken in relation to them. Divorced from all this, how poor its impress must remain, for the aspirations towards religion are fostered through art perhaps more than through any other way. There is at the present time—when there is so much talk of the falling away from the observances of the Church—a great opportunity enormously to strengthen the hold of religion on the nation; and it is unfortunate that in too much dwelling on doctrine and old tradition it tends to neglect this living witness, and, in consequence of it, looks in the wrong direction for beauty, preferring too often the weakly and imitative copyism to the more robust and inspired contribution of art.

Stabilised Prices

Since our Leading Article was written we have seen a report of the proceedings of the National Labour Housing Association at Southport. It confirms to a great extent our point of view, though we disagree with the general idea which gives the impression that the possibility of building prices reaching an economic level in relation to rents in the near future is evidently not worth considering. We have become accustomed by this time to hearing the economies of the "twelve-to-the-acre suburban residences" mixed up with the problem of the economic rent, and we are therefore not surprised to see that the assumption is that the Government must continue to build and bear the expense of the discrepancy between the capital charges and the rentals. We read that the secretary of the National Federation of House Builders stated that, "The general opinion among house-builders is that if the price can be brought down to double the pre-war figure we shall have reached a post-war normal condition of affairs. What is wanted is that the public shall realise that a new basis of prices is in existence, and that they cannot hope for anything better than prices at double the pre-war figure, which means that for a house rented at 7s. 6d. a week before the war they will in future have to pay 15s. a week." Both of these assumptions come to the same thing in the end; they seem to take for granted that houses will follow a course different from other commodities, and pre-suppose that there will be a deficit which must be made good by someone. The suggestion put forward could only be maintained provided the basis of everything else stabilised at twice the pre-war basis. It is clearly impossible that this can be done in one thing and not in another. We have repeatedly pointed out that the true indication of the stabilised or normal level of prices is when there is plenty of trade and everyone is employed, otherwise some sound reason must be given why we have not stabilised before now and avoided unemployment, losses and suffering.

Elbow Rest in the Choir of Bury (Lancs) Parish Church.

Bench End, Tideswell Church, Derbyshire.

Leaning on the Government.

The Government may feel compelled to build more houses unless building costs reach an economic level in relation to rents in the near future, but we may be certain that houses will be built quickly enough by private enterprise when they show a reasonable return on the outlay. It is difficult to conceive that anyone would wish the Government to continue building operations when this stage is reached; indeed, we should confidently expect then an agitation from builders and everyone interested in

house building that the Government should be compelled to cease. At the moment conditions are hardly favourable, but the fencing for position which is going on is a preliminary sign which is unmistakable. Mr. Stephen Leacock, who is both a professor of political economy and a humorist, says :—

> "This vast system of leaning on the Government is spreading like a blight over England and America, and everywhere we suffer from it. Government sprawls like an octopus over the land. It has become like a dead weight upon us. Wherever it touches industry it cripples it. It runs railways and makes a heavy deficit; it builds ships and loses money on them; it operates the ships and loses more money; it piles up taxes to fill the vacuum, and when it has killed employment, opens a bureau of unemployment and issues a report on the depression of industry."

We realise that the Government has been faced with great difficulties, and with the necessity for a decision one way or the other they came to a decision for which there is a good deal to be said. We do not think the Government should be arraigned for its decisions in the abstract, but when we consider the practical carrying out of the policy adopted its ineptitude has been apparent to anyone who has given the problem serious consideration. We realise that the Government will undoubtedly feel compelled to hand over the building of houses to private enterprise, but at the moment we have not the slightest assurance that provisions have been made to continue or safeguard any of the principles which may have been discovered to be of benefit to the community. Government housing schemes are to a certain extent experimental, and it is impossible to give a definite opinion upon many important factors, when conditions have been abnormal and the facts cannot be proved. We consider that the whole of the information and evidence should be placed before a select committee before the Government terminates its building programme. If the housing question is abandoned and transferred without adequate reservations, it will be an action which will be marked with callousness and levity, and will condemn those responsible.

By-Law Relaxation.

THE announcement of the extension of relaxation of building by-laws till December 31, 1923, does not come as a surprise, and under existing conditions it was necessary. This should not, however, blind us to the unsatisfactory nature of such makeshifts, which allow local authorities to waive stupid requirements if they see fit, and not to stir an inch if they do not feel like it, the remedy for the latter condition being a tedious and wearisome process of appeal to the Minister. To any but high-minded men the way would lie open to a good deal of corruption, while with the best will in the world the honest official is often placed in an awkward position. The present state of affairs is chaotic and absurd, and it is not to our credit that, four years after the war, we should still be drifting aimlessly along, making much of trivialities and overlooking essentials. The mere fact that "relaxation" is required is evidence that the by-laws as a whole are out of date and unsatisfactory.

The Up-to-date Cinema

A CORRESPONDENT, in a contemporary, draws attention to the threatened demolition of the "Mermaid" Inn at Yeovil. He points out that this inn, with its fifteenth-century gateway, is one of the only three ancient buildings in the town, the other two being the Church, and the "George" Inn, of a later date. The "Mermaid" Inn is now placarded as a "Site for Up-to-date Picture Palace." Assuming that the facts are as stated, one cannot help regretting that the local authority and the ratepayers should allow such vandalism. The correspondent reminds us that the town is a tourist centre, and he states further that, except for the three old buildings already referred to, it consists of dingy Victorianism . . . but perhaps the residents do not approve of tourists.

The Rent Act and Old Houses.

THE letter of Messrs. Yates & Yates in the *Times* of September 22 draws attention to some points under the Rent Restriction Act which deserve consideration. Messrs. Yates are the managing agents of a large property adjoining Regent's Park, on which are some dwellings for the working classes which, they say, are absolutely worn out, and which before the war it was intended to pull down and to erect flats for the working classes in their place. This policy would be carried out now, as the houses are, so the agents assert, really unfit for human habitation; but three or more families are living in one house, and Messrs. Yates say that, owing to the Rent Act, they have no remedy against those who are sub-tenants and possession cannot be obtained. The agents also say that the cost of the repairs, which can only be of a temporary nature, exceed what can be recovered in rent, and although the erection of the proposed new flats would make no material gain to the estate, it would be preferable to makeshift repairs on absolutely worn-out property. This affords an example of the check the Rent Act places upon building; but the point in the letter is that, in case of old and worn-out property, the landlord should always have the right to obtain possession when he undertakes to pull down dwellings.

Royal Academy Exhibition of Decorative Arts.

THE President and Council are now making arrangements for the Decorative Art Exhibition which is to be held in January and February, 1923, and which is primarily intended to illustrate and promote the application of the arts, in their several forms, to the permanent decoration of buildings. It is thought that the time has arrived for a public review of the possibilities in this field of art, and it is confidently expected that there will be a large response from British artists, and that they will show themselves fully capable of carrying on and developing the great traditions of such work in the past. The exhibition will include architectural decorations in painting, mosaic, tapestry, sculpture, carving or metalwork; designs, cartoons or models for such decorations, and designs for stained glass; and there will also be an Arts and Crafts Section, which is being arranged in collaboration with the Arts and Crafts Exhibition Society. Works will be received at the Royal Academy on December 15, 16, and 18. Any application for forms and labels, and other information, should be made during November to the Secretary.

Poppy Head, Worsley Church, near Warchester.

GENERAL NEWS.

New Bank in Piccadilly.

It is stated that in connection with the erection of their new bank premises on the site of the old St. James's Vestry Hall, Piccadilly, the London Joint City and Midland Bank have engaged the services of Sir Edwin L. Lutyens.

Stone-Age Village.

According to the *Glasgow Times*, Mr. William P. Ferguson, a well-known archæologist at the head of the Ferguson Archæological Expedition, working on Isle Royale, in Lake Superior, has made one of the most notable discoveries in the history of the North-Western research. He has unearthed the remains of a large Stone-Age village, covering many acres of dense forest on both sides of the Sibley River, near Graham Falls.

Overcrowding in North Kensington.

A meeting of Kensington associations was held at 3, Gloucester-walk, W.8, on Friday last week, when the question of overcrowding in the Royal Borough was discussed. It was decided to hold a meeting in the near future, in Kensington Town Hall, to arouse public opinion and to draw attention to existing conditions of the acute house shortage in some of the northern wards of the borough. It was stated that overcrowding in Golborn ward was among the worst in the metropolis, with a density of 570 persons to the acre; that in 1921 the infant death-rate was the second highest of the twenty-nine metropolitan boroughs; that the money spent in public health administration in the slum areas was largely wasted owing to the want of decent homes; and that the present acute overcrowding constituted a grave danger to the health of the public.

Dwellings for Poor Students.

A proposition has recently been brought before the Municipal Council of Paris to utilise as dwellings for students who are not well off certain buildings belonging to the municipality which at present are out of use, notably old school houses, and the ancient pedagogic museum. After examination, however, all the buildings of this category have been found unsuitable with the exception of some barracks given back to the town by the military authorities. This is within the district of the future city university. The Technical Service of Architecture has just issued a preliminary estimate for the work of making this building habitable. The expense of this is approximately 470,000 francs in round figures. The house would accommodate about eighty students.

Bristol Grammar School Memorial.

The memorial which has been erected by old boys of the Bristol Grammar School to the memory of comrades who lost their lives in the war, recently unveiled, is in the form of a screen across the transept of the Great Hall, forming a background to the platform dais. In keeping with the Great Hall, it embodies the perpendicular features that were in vogue at the date of the schools foundation, and follows the tradition of the arcaded and vaulted rood screens so characteristic of the West of England. It has six bays, the two end bays being occupied by doorways to the east transept. The panelling of the four bays between the doors contains the memorial tablets in bronze. The design and the whole of the work has been carried out by Bristol craftsmen. The screen is the work of Messrs. R. F. Ridd & Sons, and the tablets of Messrs. Humphreys & Fakes.

The Architects' and Surveyors' Assistants Professional Union.

The winter social programme of the Metropolitan Branch of the A. & S.A.P.U. has now been issued. Beginning with a smoking concert at Carr's Restaurant, Strand, on October 20, at 7 p.m., the attractive list of events includes a visit to Sir John Soane's Museum on October 21 (personally conducted by Mr. A. T. Bolton, Curator of the Museum), a visit to the R.N. College and Greenwich Hospital (conducted by Mr. T. C. Agutter, architect to the College) on October 28, and a cinderella dance at Australia House on November 16. Among the forth coming events for which definite dates have not yet been fixed are lectures by Mr. G. Topham Forrest (Architect to the London County Council), Sir F. Baines (H.M. Director of Works), Mr. E. Fiander Etchells (President of the Concrete Institute), and Mr. H. A. Cox. Whist drives, dances, and visits to works are also being arranged. A special invitation to attend all the events is issued to non-members, who may obtain a full list from the Hon. Secretary of the Social Sub-Committee (Mr. J. A. Gould), 36, Victoria-street, S.W.

Tazza at Church Congress Exhibition. (*See p.* 527.)

COMPETITION NEWS.

Birkenhead War Memorial.

At the request of the Royal Institute of British Architects additional clauses have been incorporated in the conditions. These will form part of the original conditions, and will take precedence over the former. A copy may be perused at the office of *The Builder*.

Old Cranleighan Society Cricket Pavilion Competition.

This competition has been banned by the R.I.B.A. and the Society of Architects.

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given): Colombo Town Hall (Nov. 1, July 14); Labour Saving Bungalow (Nov. 1, Aug. 7); *Chicago Tribune* Building (Nov. 1, Sept. 15); Newcastle Baths and Public Hall (Sept. 15); Birkenhead War Memorial (Dec. 29, Sept. 15); Clapton Garage Sept. 22); Hospital in America (Jan. 15, 1923, Sept. 29); Port Said War Memorial (March 31, 1923, Sept. 29); A. and S.A.P.U. Essay (Oct. 31, Sept. 29); Old Cranleighan Cricket Pavilion (Oct. 6).

CORRESPONDENCE.

Licences for Wooden Structures in London.

SIR,—Referring to the letter signed "M. S. A." on page 483 of your issue of October 6, under the above heading, I should like to state a case which has lately come to my notice.

A friend recently bought a small wooden portable shed, 15 ft. by 10 ft. by 7 ft. high, which he intended to put up in his garden as a motor garage. He was informed, however, that in order to do so, it is first necessary to apply to the Borough Council for a licence. In answer to his application he received from the Borough Engineer a printed set of rules and two sheets on which to draw plans. The plans had to be in duplicate, a block plan to scale of 22 ft. to an inch, and plans, elevations and sections to a scale of 8 ft. to 1 in.

Being unable to do this and having no architectural friend to whom he could apply for help, he was advised to consult an architect. He turned up the scale of architect's charges, and found that the minimum fee an architect could charge would be five guineas per day, excluding the charge for assistant's time or out-of-pocket expenses.

As it is impossible for a layman to gauge the time a professional man would require to take instructions, survey the garden, and prepare the necessary plans, one may assume that the fee would have to be over five guineas. This, in comparison with the price paid for the shed, is enormous, and quite out of proportion.

Can any of your readers suggest any means of getting the necessary plans prepared at a cheaper cost?

"SCHOOLMASTER."

London.

Garden City Conference and Tour.

The French Minister of Health has kindly consented to open the conference arranged by the International Garden Cities and Town Planning Association to take place in Paris on October 21. One alteration has been made in the programme; a visit will be made to Rheims instead of Chartres.

THE CHURCH CONGRESS, SHEFFIELD.

The exhibition of objects connected with church work in the Cutlers' Hall at Sheffield was formally declared open at 3 p.m. on Saturday, October 7, and remains open till Friday, October 13. The exhibits, which are displayed in several large rooms on the two principal floors of the building, are divided into two main classes, those descriptive of present-day church activities, and a loan collection of great historical interest which includes some delightful specimens of pre-Reformation church plate, chalices, patens, and alms dishes, whose excellent proportions and well-subordinated ornament render them fit models for present-day design by workers in the precious metals. Another group of exhibits of local interest comprises several articles of silver or silver-plate made in Sheffield and used by the Cutlers' Company, whose Beadle's Badge, with arms and elephant's head crest, is also shown. An old mace repeats the elephant head in carved and gilded wood. One object upon which science, history, and local pride are all centred is the experimental vat in which Mr. George Walker originated the processes of electro-plating to supersede the older methods of coating a thin layer of silver upon copper or other metals, an invention which has had far-reaching commercial results, though it can hardly be claimed for it that art was greatly benefited, since with the older methods reasonably simple forms were alone practicable. It was the means, however, of starting the career of the firm of Walker & Hall, whose weather-vane sky signs form conspicuous landmarks in the city of Sheffield.

Some beautiful embroideries, both old and new, for use with ecclesiastical vestments and altar furniture are on view in the loan collection. One frontal designed by Mr. J. N. Cowper and worked by Miss Rasch is particularly rich and striking with a large light-coloured pattern in red and green shading to gold, silver and white, upon a ground of deep red. The green and yellow fringe at the base is separated from the field by a line of black and white chequers to tone the richness of the other colours. Some other fine embroideries are exhibited at the stall of the Sisters of Bethany, where splendid colour is to be seen in combination with excellent technique and a wise use of traditional patterns as a basis for the new work. A pomegranate border in gold and rich blue is particularly striking. Embroideries which include figure subjects are also to be seen in the exhibition, but it may be questioned whether ambition does not outrun discretion in these cases. For all the stiffness of the material there is a slight ripple in the surface of an embroidered hanging that is bound to distort the figures and features. Age-old tradition, however, justifies their use.

Processional crosses, both in wood and hammered metal, and a genuine Sussex shepherd's crook, adapted for use as the Bishop of Sheffield's secondary pastoral staff, are also exhibited. The original ash-wood crook staff has been stained red and sawn into lengths with armour-bright iron sockets, in order that it may be easily carried. One fine ebony cross edged with a thin line of ivory, springs from a carved ebony pomegranate, the emblem of everlasting life, with brilliant red enamelled pips. The red is repeated in a patch of inlay at the centre of the cross and the ivory in four elliptical frames enclosing pieces of the wood from cedar, palm, cypress and olive, the traditional materials of the true cross. The bold proportions and striking colour make this staff more effective for processional use than many of much more elaborate design and costly materials. Another interesting piece of church furniture is a coptic chalice stand cut out of pinewood and fastened together with small square pegs of wood. The box does not seem to have been stained or painted and is worn at the edges as if by a sand blast. Exterior woodwork in Egypt often acquires this appearance, but an object of church furniture would, in the ordinary course of events, be kept out of the way of sandstorms, and the effect may be due to age and handling.

COPTIC CHALICE STAND
9" SQUARE AT TOP

Among the pictures is a fine Russian ikon painted on wood with fine gold ground, improved by a slight craze from the grain of the wood. The face and beard are painted with unusual minuteness and the black head-dress, purple robe and blue sleeves contrast strikingly with the gold.

Remote antiquity is represented by some engraved flints from Grimes Graves in Norfolk, the quarrying place of the raw material, flint, of which palæolithic man had need for tool-making. The deer scratched on one flint is a particularly lifelike piece of work. Of a somewhat more recent period is an ancient Greek vase, dredged up off the Island of Patmos with a growing sponge attached, and part of its parchment covering remaining at the top.

Another piece of burnt clay, an encaustic tile of late fourteenth century, has a figure inlaid in white slip, the whole surface having been originally covered with a yellow glaze. The arms are stretched down and the hands open, so that it has been assumed that the subject is intended for Judas casting away the thirty pieces of silver. Unlike the prehistoric flint engraver, the artist leaves one in some doubt, and he may have meant to represent the actions of sowing seed or casting away stones. Of far greater definition and, for that reason, of great historical interest in connection with the study of costumes and armour, is a collection of twelve careful rubbings from monumental brasses of different dates from 1277 to 1632. Many ancient books and documents are also displayed referring to subjects both clerical and lay.

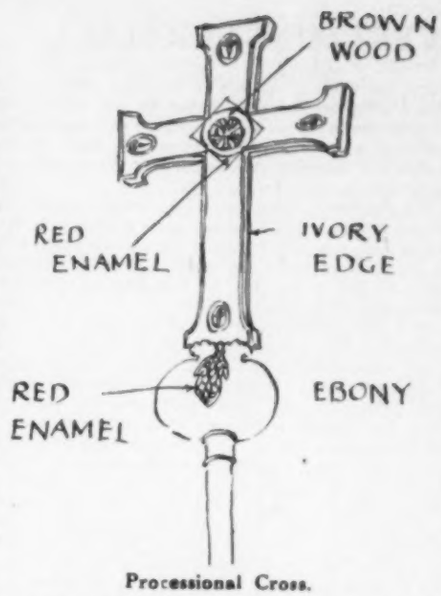
Among the stalls devoted to present-day activities the most prominent is given to that demonstrating the work of the boys of Dr. Barnardo's Homes. Brush and boot making, carpentry and other crafts are carried on in view of the visitors to the exhibition.

Some other exhibitors gave practical illustration of their art. The firm of Robertson & Russell exhibited some executed works in stained glass and showed the stages of cutting, leading and painting the glass on the spot. A successful attempt is made to obtain the full richness of the colour by carefully designing the lines of lead where black will be useful in giving it tone, and the mossy effect of age is obtained by hatching on the glass in some opaque pigment.

Other firms are more openly commercial. Candles and candlesticks of the all too familiar brassy and glaring type can be seen not far removed, in point of space, from others of very charming design in both old and new work.

The Potters' Arts Guild exhibit a varied group of angels, memorial statuettes, plaques, and cinerary urns from designs executed under the direction of Mrs. Watts (the widow of the famous painter), at Compton, Surrey. Large objects such as full-size fonts, are also made, though space does not permit such things to be exhibited.

The Builder is represented by the model of Old St. Paul's Cathedral in 1540, after the drawings of H. W. Brewer.



Processional Cross.

Good metalwork is exhibited by the Artificers' Guild, Ltd., and the Bromsgrove Guild show an altar railing in armour-bright wrought iron, with bunches of grapes and vine leaves treated in the round, as well as several pieces of very attractive carved woodwork.

The illustration of a stained glass window in St. Cuthbert's Church, Fir Vale, Sheffield, shown in monotone in the catalogue, is the reverse of architectural. Instead of the figures being conventionalised into the plane of the glass, violent contrasts of light and shade are indicated, and the excess of realism with which so much present-day glass is afflicted is here carried to an extreme.

Church architecture is again represented in the fine design for Sheffield Cathedral by Sir Charles Nicholson, Bart., whose original drawings and perspective are shown in the vestibule at the head of the stairs.* The present Cathedral Church of St. Peter and St. Paul is incorporated in the new design and will form the south aisle and transept of the finished building. The existing church is the only old church in Sheffield and is a very fine one, so that the architect is to be congratulated on having devised a scheme in which it can be preserved not only without incongruity but with enhanced interest. The tower and spire, which will be thrown off the centre line of the new church, are to be matched with a twin tower and spire in the north transept in a manner that may recall to the spectator the twin transept towers of Exeter Cathedral, though with the difference that the style will be Perpendicular instead of Norman. An impression of this design by Mr. Donald Maxwell is hung in the stall devoted to the purposes of the Incorporated Church Building Society, whose good work in providing grants towards churches of sound design and free seats can hardly be too much commended. The illustrations of churches in England and other parts of the world that have been assisted by the Society demonstrate the good taste of its advisory committee of honorary consulting architects, and make the visitor wish that sound design for buildings other than churches might be encouraged in a similar way.

A minor puzzle in connection with the Sheffield Church Congress Exhibition is that, while its catalogue shows a richly embroidered banner containing a picture of two Apostles as its centrepiece, and labels it "The Congress Banner, Sheffield, 1922," the same description is applied to an exhibit in the loan collection, which is stencilled in a rather thin style with a centrepiece of St. George and the Dragon.

The Director and Secretary of the Exhibition are to be congratulated on the excellent arrangements for the exhibition and the public.

* See our issue for March 3, 1922.

WESTMINSTER HALL.

Such bewildering wealth of interest is contained in Westminster Hall that, in view of the visit of the R.I.B.A. on Saturday, the enumeration of some important items may help to direct the attention of visitors to the points they wish to consider.

Westminster Hall is one of the largest single rooms in the world that has been roofed in a single span without the use of any metal except in the form of nails. It is 247 feet in length, 68 to 69 feet in breadth, 43 feet high to wall plate, and 92 feet high to ridge.

The hall was originally built to serve as a palace for William Rufus, who is reputed to have considered it too small for his dignity. Norman masonry remains in the interior of the long side walls, and parts of it may be seen from the Committee Rooms, built by Pearson, on the western side of the hall. Several fragments of a very beautiful Norman arcade and passage were discovered in the course of the present repairs, and in some places the wall—a fragmentary length of passage—remained as a large cavity in the Hall's wall. The outward lean of the walls should be noted, as it affects the statical conditions which had to be taken into consideration when the "new" roof was built under Richard II between 1394-1399, and in the design of the repairs now near completion.

The Norman roof is supposed to have been supported by two rows of piers or posts standing on bases in the floor of the hall as well as bearing upon the side walls. A great part of the interest of the roof turns upon the daring of Richard II's designers in dispensing with these two rows of intermediate supports in their new work. The daring of the design finds its reflection in that of the new steel trusses, which are of a pronounced scissors type and have only been fixed at the wall head after having their feet forced apart under pressure of powerful rams to an extent calculated to minimise future distortion and movement.

The gigantic dimensions of individual timbers are noteworthy; the wooden posts still measure from 2 ft. to 2 ft. 1 in. in thickness after 523 years of desiccation.

The present repairs were necessitated by the very advanced state of decay in the interior of the timbers caused by the excavations of the death-watch beetle—*Xestobium tessellatum*.

The extent of the damage and its menace to the structure were recognised by Sir Frank Baines as the result of personal inspection, and, at first, was realised by him alone, since the speciously sound appearance of the outsides of the timbers led to the expression of doubt, in some quarters, that any extensive repair would be needed. The examination of several trusses in detail revealed a state of decay that could not be ignored by the most optimistic, and the voices that had been heard to declare against the necessity of repair now suggested rebuilding in sound new timber in order that the old principle of the roof's construction might not be sacrificed. The present design, whereby all that is sound of the veritable old timbers has been preserved upon an unobtrusive frame of steelwork, should be carefully inspected. Safety has been provided without the sacrifice of the genuine character of the roof, for even its distortions have been respected. England is the richer by the fact that the discoverer of the decay possessed the force of character to uphold his excellent scheme against all criticism, as well as the ingenuity to devise and the patience to carry it into execution with consistent attention to every detail.

THE TOWN-PLANNING EXHIBITION & CONFERENCES AT MANCHESTER.

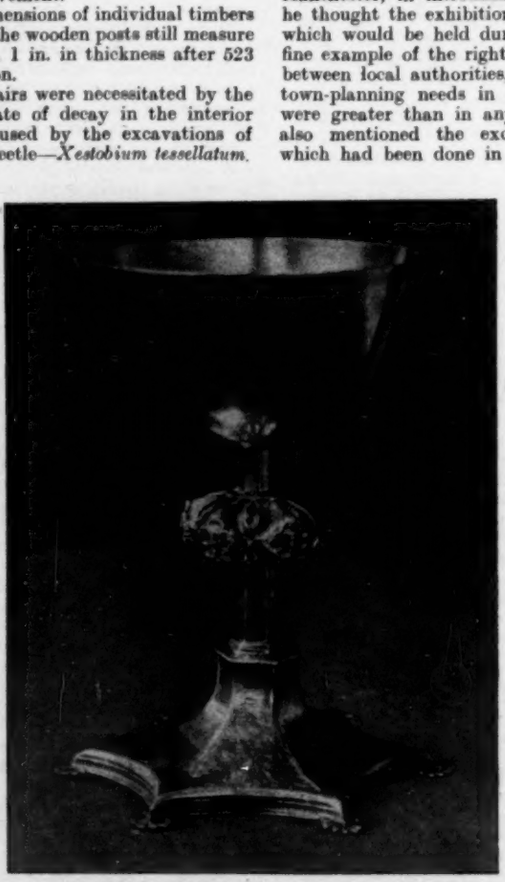
The Manchester and District Joint Town-Planning Advisory Committee are to be congratulated on two facts: first, for having got together a most interesting and instructive exhibition, illustrating town-planning in all its various branches and, second, for inviting Lord Derby, whose well-deserved popularity in Lancashire is a guarantee for public interest, to open the exhibition and series of conferences which are being held during this week.

Councillor E. D. Simon, Lord Mayor of Manchester, in introducing Lord Derby, said he thought the exhibition and the conferences which would be held during the week were a fine example of the right kind of co-operation between local authorities, and added that the town-planning needs in the Manchester area were greater than in any other district. He also mentioned the excellent pioneer work which had been done in arousing official and public interest in this subject by Councillor G. C. Horsfall, who was only prevented from being present by indifferent health.

Lord Derby, in the course of his speech, said that the point he wished to emphasise was that this was not an attempt of a great city to draw surrounding administrative areas into its net, but the better way of co-operation between local authorities in the district. After a brief reference to some statistics showing the magnitude and complexity of the problem, the speaker said he thought what was necessary was method and common sense. Speaking as a landlord, he was able to assure them that nothing would give greater assistance to landlords than to have, definitely laid down by town-planning, regulations stating for what purpose land in different areas could be used. He thought it was evident that works depending on transport facilities should be situated on main roads, and dwelling houses as far as possible away from these main traffic routes. It was evident that the spirit which would dominate the conference was one of a desire to discuss problems with a view to finding the best means of co-operation, and to co-ordinate the work of town planning to the mutual advantage of the various authorities concerned.

The exhibition in the Town Hall is grouped so as to interest the general public. In the central hall is an excellent collection of analytical town-planning maps and diagrams referring to the area dealt with by the Manchester and District Joint Committee. One specially noticed a series of five maps illustrating the development of Manchester itself in relation to town-planning. No. 1 shows the city as it was in 1845; No. 2 as it was in 1920; No. 3 as it might have been in 1920 had the principles of town-planning been adopted in 1845; No. 4 is a striking map showing what the city would be like in 2000 without town-planning; and No. 5 what it may become if a "go-ahead" town-planning policy is adopted. There is also a similar series of diagram maps illustrating the development of Hyde, Eccles, Rawtenstall, Rochdale, &c.

The other sections deal with the following branches of town-planning: Section 2, Civic survey; Sec. 3, City development; Sec. 3A, Garden cities and suburbs; Sec. 4, Zoning; Sec. 5, Joint Town-planning; Sec. 6, Road forms; Sec. 7, Open spaces; Sec. 8, Town-planning schemes.



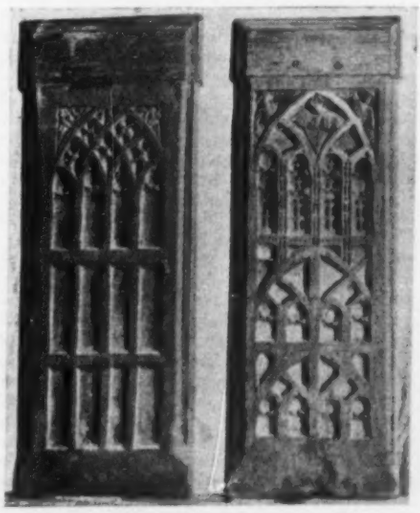
Chalice, from Old Hutton Church, at the Church Congress Exhibition. (*See p. 527.*)

(*See p. 527.*)

THE CHURCH CONGRESS AND ART.

Though a great amount of interest will probably centre on the loan collection of art objects shown at the Sheffield Church Congress, which includes plate, carvings, embroideries, rare MSS., etc., and which is this year of exceptional value and beauty, we are not concerned here to review work which is in so many cases consecrated by time, and has all the reputation attaching to work of the past, but to offer some general remarks on the outlook and influences which are directing art at the present day in this connection. The chalices, etc., shown are of rare beauty and value, one silver fifteenth-century paten alone being insured for £5,000. At the same time the mind should not be wrenched from its independence in viewing objects of this kind on any money computation of their value, though in the case of "antiques" this estimate is often more intrinsic than that we bestow on the new, because the value of the former is not estimated on the price originally paid for it but by the esteem growing out of its beauty as a work of art. The high prices of the late Victorian period are mostly in inverse ratio to the intrinsic value of the art of the time. The industrial age had infected art, and its values were inflated and artificial. But what about to-day? Generalisations are always dangerous, and if we were to believe all that is being said about the present time, its beliefs, its outlooks, which in the minds of some are made to illustrate its inability to reach anything above a hand-to-mouth, utilitarian, and so-called "economic" outlook, the prospects for poetry and art would be dark enough. For the practical is now supposed to discount any glamour of religious inspiration for either. We believe this to be a very one-sided account of things, and that there is a longing for expression along the road of a more ideal outlook. If, as the result of testing under calamity, the values we have all been living in are very often found to be false, is not there already the sense growing within us of others that are truer? Our tasks to-day are no more prosaic and mundane than at any other time: it all lies in how we look at them. Instead of talking so much about mediæval achievement and of the past as though it were some fairy tale, is it not time to discover the fairy tale of our own? For surely it is here amidst us now, and it is because we believe so strongly that the sense of it is felt and is growing that the prospects for poetry and art are not less at this day, but promise much more. Having discounted the pessimists, let us see if along the lines of the practical we can find reasons for the faith that is in us. Anyone who has followed the developments in modern work over the last half-century or so cannot fail to have noticed a definite improvement in the general average of the craftsmanship bestowed on it. Credit must be given to the arts and crafts movement of the time in calling attention to work of more intimate quality, both in the character and inter-relation of design and craftsmanship. And because improvement moves slowly, nature never hurrying herself, we will not complain if this handicraft movement; while affecting a service in one direction, it at the same time obscured issues which are far more important than itself in another, because it tended to exalt craftsmanship—the least part of art which can be learned—over the art itself. There is a story of John Constable, who was approached by a young artist on the theory of truth to nature in painting, with all the crudity of the extremest pre-Raphaelite. After he had gone Constable was overheard saying to himself: "After all, there is such a thing as the art." In the practice of stained glass, interior decoration, and the crafts which minister to church work generally there was associated a group of young craftsmen, the influence of whose work in the 'eighties was in the direction of a return to the better traditions of mediæval art—to the more personal, more directly inspired, and greater freedom of its more traditional character. For at that time we were suffering from the false values bestowed on tradition which grew out of the Gothic Revival period, and work produced merely as the result of copying Gothic forms, and having no internal vitality because identified as tradition, and instead of the more perfect freedom which is its gift it took all freedom away. Whereas the strength of Gothic grew out of its freedom, the revivalists fell into a servitude which was painfully mechanical and unendowed. We had only to make ourselves sufficiently acquainted with Flemish or other mediæval glass to be able to imitate it and misapply it, under conditions which necessarily falsified it, because the former was native and spontaneous, whereas our revival was only mechanical and below art. This method, necessarily easier of accomplishment, became widespread, and any departure from its more contracted outlook was regarded as unsound. This can be said, now that a change of view is establishing a truer estimate of the nature of art.

Now it does not matter what we call ourselves, but there are certain requirements which cannot be gainsaid in the making of a thing of beauty, which needs the craftsman's intimate association not only with the design but with the material in which he is working all the time, and though co-operation between craftsmen is desirable it cannot be carried on as a business, with its directors, its dividends, and its branches throughout the country, without disastrous loss to its prospects as art. All this is very much better understood to-day, and though in more official directions there may be slower realisation of a change which must mean so much to the prospects of art in churches, it is none the less largely influencing the present generation and the teaching in our schools. Integrity in craftsmanship and sound principles are a fine starting-point for the more arduous claims of art. But though this nearer approach to the real needs of beauty which lies in the understanding and working of materials in a way which best expresses their nature, and which is such an advance on the more commercial and mechanical practice, is fundamental, it is not enough, unless life itself finds new values for itself—a new valuation for profit—of the reward lying in work, freeing it from more sordid and worldly aims.



Bench End in Walcot Church, Lincs.

There is no doubt but that this change is revealing itself, and that any survey of the influences moving through art which did not take count of these improvements, to which we have referred, would do less than justice to what is happening at the present time.

THE ART OF STAINED GLASS.

There is a change in the method of looking at work, whether stained glass or any other art, from that of the "craft ideals" of the 'eighties. The change is certainly for the better, and the force of that movement, which is now rather spent, is being replaced in other and more salutary directions. We found it at that time a little too easy to talk about "ideals," and the inexorable claims of their upholding in practice were sometimes forgotten. That which favours art at any time is the right temper and outlook of the people. A people not moved by beauty, living neither near enough to nature nor to religion to have such influences shaping their lives, will not as a matter of logic portray that of which they have no knowledge—the work of such will lack nature and direction, and not being moved by the best things they cannot move others; seeing no vision they have no vision to bestow! Yet it is surprising how long an alternative to direct inspiration can do duty for its reality. How much of the stained glass in our churches is less than either art or craft. An industrial age which penetrated all directions of activity was hardly like to leave art untouched, and the commercial ideal, united to the externals of the Gothic Revival movement, was a conjunction fatal to beauty. Stained glass became a quite respectable business, which by the slow adhesion of use and wont flourished as the recognised interpretation. On the other hand, firms with a tradition of long standing, and some appreciation of the qualities of mediæval glass, produced work which, from the tradition of long practice, was not on the side of knowledge to be disregarded, and could this have been earlier shaped by the leaven of its artistic endowment and creative expression it would have moved inside rather than outside the orbit of art. If the artist, instead of adopting a too exclusive attitude and animadverting unfavourably on the "trade," had adopted a more conciliatory attitude, the division that separated the two might have been crossed much to the advantage of both. For the artist needed the knowledge of technique on the craft side which would have given greater facility for the practice of his art, and though the temper of his work was so much more endowed he was lamed on this side. Whatever the case, then, the teaching of the crafts in our schools enables the artist now to start better equipped for his work in this direction.

It has always to be remembered that we are on false ground in quarrelling about labels. It does not much matter what we call ourselves, our production will show what we are. And it is only here that we reach essentials, one of the most important of which is the right emphasis of personality. To say we owe nothing to tradition, that the artist is not fortified by his knowledge and appreciation of the past, is to show that we are ignorant, and there is no doubt that a too subjective approach—the practice of an artist not strengthened by precedent and the experience of time—is weakened and impoverished by the lack. It is quite true that to extend the subject matter of art in churches to include more of the life of our own time is only to recognise that art is not of one time but of all. But were this to suggest to us that we should disregard the riches of subject matter which we inherit from the genius of the past, we should be false to the nature of art. Traditional religion offers an unlimited field, if it includes all that portrays itself in life as beautiful and significant, and is not tied by its timidity to doctrinal subjects only. Life must form its nourishment. But to labour all this too much

—which is by this time better understood—would be to bestow less attention than is due to the real improvement in the approach of the art of stained glass to which recent times bear witness, when we look below the surface. There will, no doubt, for some time yet be a good deal of stained glass work done which does not bear impress of much spontaneous expression, in which the method of approach precludes any such idea. We are all in degree subject to the adverse influences to art of a commercial time, and the artist no less than others, and he has to withstand the temptation to lay himself out to get as much as he can, multiplying his efforts by the attenuation of himself, doing, in fact, as little himself as possible and employing others to do his work for him. There is a legitimate way in which he may do this, and one which is not legitimate, but there is now a stronger feeling against the kind of success which, though it has held prestige, has but little respect now felt for it. And this result is due not only because the younger craftsmen realise the want of fealty in such a course, but that the public are beginning to appreciate that in order that their judgment may be saved from error they must know something of the nature of art and where it is to be looked for, themselves.

As colour bears so great a part in the charm of a window, it is satisfactory to notice the growth of appreciation in regard to what constitutes good colour. It is not—as is too often thought—in the mere amount of it, as though the greatest noise were the best music. It is more than this, much more difficult, and the most beautiful qualities lie in the proportions of the selected colours to each other, distributed so that they sing through the window, but do not shout! And if such a comparison may be ventured—as the shining and silvery stream to the flower-embroidered mead which edges the stream, so should be the extent of bright colours to the surfaces of silvery matted or clear glass which contrasts with them.

A window is to give light—how disastrously this is forgotten in so many cases!—and it is to glorify that light, not to blot it out, which should be the aim of the glass painter. The idea that there is any secret in stained glass is one also to be discountenanced, as though we were precluded through the loss of some technical provision possessed by the ancients from reaching like results. The only secret always in danger of being lost through human infirmity is the secret of being artists. That secret the ancients held, but it is an open one, and wherever life is free enough and good enough to express itself beautifully there is no secret to prevent its best accomplishment.

The virtue of stained glass lies in no such technical mystery, but in the mystery of human life itself. We have been tied to dead traditions, and have, therefore, left too much out of account the living tradition everlastingly able to inspire our work with what freedom and assurance—how ingenuously conceived—is the Adam and Eve window in Fairford Church. The craft is simple enough—could be taught to any intelligent person—but who can teach the art of such a window, its freedom and beauty? These old craftsmen had hearts like children, unsullied from the world, living in a dream which civilisation had not destroyed. Can beauty come from anything else? With all the advantages this time possesses we have lacked this one, and when it is added to us we shall not flinch at the challenge of good work, nor will our timidity and laziness direct our choice to what is formal, conventional and unendowed, or interpret our orthodoxy as unable to include the freedom of art, which has separated art from the Church.

METALWORK.

Any account of Sheffield must include the history of metalwork, for from Roman times the manufacture of iron and steel has been carried on there, the district being rich in iron-

Bench End, Tideswell Church, Derbyshire.

stone for smelting. But Sheffield has special claim to recognition for the beauty of its silver, the Sheffield plate of the eighteenth century, which was manufactured there, being of great artistic reputation. Unfortunately the coming of electro-plate injured the industry, but it is due to the industrial era and methods of production contradicting the proportion in which man should stand to his work, and by which he has become so much part of a machine himself, that we must attribute the loss of any intimate human character in so much of the metalwork produced at the present day.

The Church's requirements have always made special claims on the metal-worker. Chancel screens, rails, lamps, altar vessels, candlesticks, etc., have in the past been the means of calling forth the finest powers of the craftsman, and wrought work of this kind has a long history and reputation. The exhibition at the Church Congress includes many famous examples, such as the Elizabethan chalice and paten cover, presented to the parish of Hatherop, Glos, in 1599, and a pre-Reformation paten belonging to the parish of Dronfield, Sheffield. There has been fine metalwork done in recent times, but it was toward the end of the last century, in the 'eighties, when "the arts and crafts" movement began, that the work of a group of young craftsmen working in metal came into prominence. Their work done on more personal lines showed a more intelligent appreciation of the characteristics of materials and of design in relation to them, and their work showed a finer appreciation in design and craftsmanship than that of the ordinary manufacturer. For, subsequent to the time of "Sheffield plate," and connected with the growth of the industrial era, as mechanical methods and mass production developed, the individual charm so precious for the beauty of craftsmanship became supplanted, the element of creative design, the entry of choice of fancy into industry, this quality, so precious for the well-being of life, was submerged. The machine directed the man, and he became the slave of the very resources which should have helped him in his work. Nor is it the machine that is to be blamed for this, for it was badly fathered, and has received much of the condemnation which is due to the material outlook on life which directed it. There is, however, a definite growth of perception towards a more reasonable outlook, which would relate again in better proportion the claims of man with the tools which ought to serve and not enslave him. We see, however, the enormous break between the methods and approach of industry which yielded us "Sheffield plate"—the loss of a tradition which was so salutary in its influence on production, and which shaped and disciplined into more human characteristics the work of the time. We oscillate now between extremes of mechanicalism and over-subjectiveness. Approval can be granted neither to the abortive imitations of past work, which usually alter and distort its original proportions, nor to the subjective individualism which imposes too much of itself. The desirable mean is found only when the artistry, design and treatment, is, in addition to the craftsman's own contribution, fortified by a knowledge and appreciation which takes proper count of the past, and builds on its noble inspiration. Only in such a way is it chastened and sustained from vagary, and all the horrors we associate with "new art." Such an attitude towards his work by the craftsman, precedent directing his power, will give full freedom to personality without eccentricity. We have suffered in the last years from some rather undisciplined adventurers in metalwork, in which these characteristics to which we have referred have been lacking, and it is, therefore, a pleasure to speak of the metalwork of one so distinguished in the art as Mr. Bainbridge Reynolds, which, with no loss of identity—for the artist is all over his work—carries on the traditions of the past so well. Many will recall his nobly designed lectern and screen work in a Kensington church, and other earlier examples, which exhibit his intense appreciation of the material in which he works, and his disciplined feeling for design. We could wish that life were shaped with a composure to permit of the craftsman having greater opportunity to spend himself on original, personally-wrought work, instead of having to work so much through others, with all the details of organisation and direction involved for such a task; but the patron is not often forthcoming for this more concentrated work, and to meet the kind of demand existing, methods of reproduction are employed to lessen the cost and multiply the examples. But a cross or vase reproduced in this way will never have the beauty or preciousness of work wrought and chased by hand. This quintessence of the craftsman the era does not value enough for him to be kept employed in the ways best fitted to his noblest and best accomplishment. But we can secure none the less in our reproductions a fitness and distinction of design, and in all the work produced by Mr. Reynolds there is the unmistakable sense of a master, both in design and material. His work has always been most salutary in its influence on account of its distinguished good taste and restraint.

THE INADEQUACY OF CRAFTSMANSHIP.

With all desire to do credit to the good example set by some architects, their inadequate sense of craftsmanship, and distance from materials, has retarded the expansion of the more intimate qualities that belong to materials. In the Victorian periods other causes led to a great estrangement between the architect and the craftsman—or we would prefer to say the artist, as the greater governs the less. And, as was pointed out by an eminent physician quite recently, that it was thought *infra dig.* to be associated with craftsmanship to the great injury of surgery, so false standards established the architect in a detachment, which was due more to snobbery than good sense. It was the spirit of the times, and it had its inevitable influence on the arts. To take an instance, we would refer—as one out of other examples which might be chosen—to one of the last churches built by the late George Bodley, and which exhibits in the work of an architect of great reputation just those faults to which we have referred—faults which no doubt lay in his time, but which were injurious to the virtue and distinction of his more personal part in it. So far as his single mind is able to direct, in

planning and general features the proportions are dignified and successful. We can feel on entering the church a certain atmosphere of beauty and detachment, which raises us from the level of the rather sordid streets. It has tradition in this sense—the wide gangways, the entrance porch placed well up the nave instead of right at the end, the variation in the aisle arches, which are delightfully stopped at the west end by an arch of different, steeper character, show real appreciation. The church is lighted from the clerestory only and the unpierced walls of the aisles add a conventual and rather romantic character to the effect. But when we come to details, where co-operation is so necessary and success depends in fortifying the work through other minds, the hand of the craftsman in any vital sense is not forthcoming—all the detail, ornament, font, hangings are without life or character. The font looks as though cast in a mould—faultless in its lifelessness and want of treatment. The office drawing, no longer adequate, is the poor substitute for the vigour of personal craftsmanship and has wholly taken the place of any life or intention. This exclusiveness and self-sufficiency destroys the effect of an otherwise good building. No doubt it is more trouble to search out good work than to hand it over to the manufacturer of Gothic detail, but what a pity!

We refer to this because the failure is not wholly to be attributed to the architect or the clergy, but to the outlook of the time, which luxury had undermined, and whereas in the Middle Ages self-assertion and exclusiveness were subordinated to a communal spirit which united the whole, we have to see its opposite here—the individual controlling more and more within his own hands, and subordinating the right conduct of his work to his own insufficiency and self-interest. The plan of this church has no original force outside of the architect's mind, and failing to include any corporate vision is defaced by ugly and inadequate features, which the poverty of the single mind unaided must ever include.

MURAL PAINTING.

This is a subject of great importance at the present time, having sprung much into prominence over the last few years. The Academy schools are making it a special feature in the training of students, and the Society of Mural Decorators devotes much attention to the principles of sound craftsmanship, on which this movement will greatly depend for satisfactory results. Craftsmanship is but one side of the matter, though important enough; what is yet more important is the spirit in which we approach such work, and when we understand the nature of wall-painting it is seen to have very little actually to do with size or subject, but is vitally concerned with the right understanding of its nature. Wall painting has not the same constituents as a picture. If, for instance, we enlarged a picture and copied it on to a wall six times the size, that would not be a mural painting. It is literally the case that mural painting is less something painted on to a wall than something brought out of it. For the inspiration of the wall, the building itself is a large part of it. Nor even if we have made a cartoon for a wall painting, and then, having pricked it through to the wall itself, we paint it from the cartoon, shall we exactly have reached its true genus. It is something that the wall provokes out of us, though we use these different means, studies, cartoons, etc., to fortify ourselves as much as possible in our actual work. But the temper that will copy on to a wall is not the temper of the mural painter. The artist must burn his ships! Until he is freed from conditions—and we are of opinion that it is better to make reduced scale cartoons than those of actual size, as the best kind of assistance to his work—until freed from all ties of dependence, and able to reject himself even, the artist in us has not arrived that can measure himself against the august dignity of this epic form of expression. Only when freed from all such ties will his art become translated in the process and be borne out of the wall itself. Swiftness, and the urge of an athlete in a race to reach the end before fatigue overtakes him, is the best hope of its success. A slow scholastic philosophy of approach, guided by conformities, holds no such freedom. A tired wall painting is a failure! Completeness is of far less importance than suggestiveness, therefore the whole genus of wall painting depends not only on technical proficiency but on the artist's psychology—on how much he will surrender for such freedom. Unless it has the dignity of elemental things, of a vision which embraces the "seed of perfection," the beauty which emanates through all things, it is hardly worth while to write our failure so large!

As of poetry the poet has said, "Be a breath thine only song," so a wall painting should march hour by hour, and day by day, not like "honest drudge," but under a sort of possession—not of "fire and fury," "signifying nothing," but signifying mastery of one's material and of oneself.

The subject matter of wall painting lies spread everywhere around us, but our attitude must be one able to penetrate to its beauty, whether it comprises "roundabouts and swings" or industrial life. For a roundabout may be lovely, and most other features of a fair, if we regard it through eyes raised above its dross and mortality, and hear through it "the sad music of humanity." Nor do we need to seek out great subjects, for there is no first or last in this way. But in advocating a subject matter drawn from our own life we intend in no sense to dethrone the august subject matter which is our patrimony from classical, mediæval and Elizabethan life, and which holds an immortality within it. Virgil is not ancient that we should neglect the pictures that he projects of such vast significance, and it must not be forgotten that the great is not mortal but of all time. Nevertheless, the many-coloured life around us now can supply pictures as epic as those of any other date, and will appear so when we regard them rightly. It has been said truly: "Go with mean people and you will find life mean," for life takes the colour of the soul.

The ABC of mural painting would seem evident enough, but to interpose a word here on its practice, this requires to be strongly reaffirmed. A mural decoration is not something painted on canvas in the studio and then stuck on to the wall. The conditions of successful work require that the painting should be done on the wall itself, without which we have not the means to judge what the situation requires, which is determined by the architectural surroundings, distance from the eye, lighting, etc., only to be understood in immediate contact with the wall itself.

But there is no formula available—or at all desirable for that matter—as to how mural painting should be treated, and we should start without preconceptions. A good many false views obstinately cling around the subject which need discountenancing, such as that wall painting should be flat—as though some receipt was to be found. There is none. A good instance, pathetic also, in the circumstances, is to be found in the frescoes—they are not true fresco—by Lord Leighton at the South Kensington Museum. Was there ever matter more entirely in the wrong place? What farcical "War" and "Peace"—such elegant young men and gracious ladies? How we long for some reality, some "rudeness and roughness" to be thrown over them! And £5,000 paid, we believe, for each of them, and though this is the least part of it, what waste of money and talent! And not so far from where these paintings were placed hung at the same time a triptych painting of Perugino's of such entire rightness and beauty that it is difficult to understand how so much unreality and accomplished emptiness could be achieved.

A word as to the place of craftsmanship may be included here. Craftsmanship—so important, the means through which we find expression—may yet assume a very exaggerated importance, unless we keep in mind the object for it. We doubt whether there was half as much talk about craftsmanship at the period of its highest consummation. It is a sign now, more of our weakness than of our strength. Was it not Thomas Carlyle who, in reply to some stickler for the literary craft, replied, "If a man has got something important to say he will generally find the means of saying it," and if we train ourselves into an elegance to say nothing, what sort of craft is this? If we were ever to forget this, and replace it with the idea that art—and let us remember that there is art—could be learned, and that we have only got to know the receipt, we should be fatally astray. It is a far more difficult matter, and would be truer to say with Goethe that "it is the least part of art which can be learned."

Nothing goes amiss where "simpleness and duty tender it," and we may see on the walls of the entrance hall of the Whitechapel Art Gallery some wall paintings which in their *naïveté* and ingenuous character bear witness to it. Far from being academic only, they have both feeling and nature, an equipment which, united to vision, is perhaps the best of all. For the Church there is much need to reconsider its so-called ecclesiastical traditions about art, by a better knowledge of the nature of art itself. There is no doubt that the influence of beauty makes for religion, and a closer co-operation between the world or art and religion would be to the advantage of both. The time is, we hope, past when good colour was felt to be "unsound," and only the most stereotyped treatment took the place of art in churches. There is still a great lack in the present characteristics of Church decoration, which is mostly without any distinction of treatment or personality.

This result is partly due to the mere "use and wont" which governs so much of what is done, and which we should so much rather be without. But we do not reach into the causes for the inadequacy of craftsmanship by dwelling too much on this side, conventional as so much of the work is still, so little its hold on life. We have to get back to first principles, to the organisation of life itself, in order to get an understanding of what withholds the expansion of man's spirit, to understand why beauty no longer colours life as it did. So long as we talk of the past ages of faith and our own prosaic time, as though revelation belonged to the past and we had no means of possessing a belief to inspire us as once before, we lack the self-knowledge which revelation and faith are found to dwell, and which would carry us like the sails of a ship or of wings with which to soar. No talk of craftsmanship or scholasticism, of knowledge or culture, except as it can pierce down into the roots of life again, to understand on what they rest, will give us either beauty or the measure of happiness and fulfilment out of which it is born. It is not a time for reform, or for political change, but for faith; not that of tradition and hereditary claims only, but that faith which finds man unconquerable before circumstance and the master of his soul.

Traditional Furniture.

A reception room gallery for the display of high-class traditional furniture craft has been opened in Baker-street, W., by Mr. Maurice S. B. Adams, F.R.I.B.A., who is showing some pieces of inlay and craftsmanship in veneers as well as plain oak cottage furniture, on old lines.

PROGRESS OF MODERN CHURCH DESIGN.

Church design has changed materially since the first enthusiasm of the Gothic Revival, but the change is by no means uniform in different examples. Of two new buildings for religious purposes in the same high road, one may be built in smooth red, purpose-made terra-cotta blocks, the other in London stocks with an occasional band or patch of Portland stone. Both may be reasonably convenient in use and capable of containing a stipulated number of persons at a reasonable first cost for construction, and with the prospect of somewhat similar disbursements on future repairs. Their appearance, however, places them, artistically, in different worlds. The nicely-moulded terra-cotta, clean and neat as a new pin, with decent green slates and lead ridge, shines with an air of civilised well-being that is in harmony with the well-brushed top hats and black silks of the congregation. The church built of common brick testifies to quite another spirit; it is meant to appeal to a class which approaches life in an altogether different mental attitude. For all Gibbon's slighting pronouncement that architecture obeys simple "and even mechanical rules," many modern architects approach the creation of a design with a more earnestly adventurous intention of putting their finest original thoughts into their finished work. They attempt to cram sensibility into brute material to render it vocal. No one could pass the towered front of Mr. J. Harold Gibbon's church of St. Augustine's, Highgate, without realising that the omission of the usual complement of mouldings, the flat expanses of brick and stone, have been composed in response to a compelling force that will not rest content with obedience to the simple "and even mechanical rules" which govern the application of the classic orders, or that the austerity of the whole front is designed intentionally to frame the noble sculptured group of the Crucifixion and lead to thoughts and feelings of an intensely different order from those suggested by the excellent building in terra-cotta.

To some extent the spirit of each several denomination or party finds its expression in the design of its places of worship, but this is by no means consistently the case, and it is not safe to argue from the appearance of a building that such and such tenets will be upheld within its walls. Architects do not design two buildings for similar purposes similarly, nor do clerical clients all look at art with the same eyes or consider the same type of design expedient in two different parishes. A statue or a cross may be boldly introduced on the face of one building and eliminated from another in deference to the known or supposed preferences either of the Church authorities under whose jurisdiction the building will come or to the inclinations of the future congregation to "high" or to "low" orders of ceremony, as far as such inclinations may be anticipated. Some architects also think fit to tie themselves down to no definite style either of their own invention or selection, but, frankly, make it their aim to give the client for the time being just what he seems to demand; selecting with the most undiscriminating eclecticism examples from any period, and adapting them, often with triumphant ingenuity, to the proposition in hand. This selective method of design is a natural growth under the circumstances of our state of arrested civilisation, in which we stand burdened with the heritage of the past and with the inventions and contrivances of to-day.

American architects, who seem to have accepted their status as purveyors of all that is "civilised" and "up-to-date," are eminently successful in their selection and adaptation of suitable European designs to a skeleton framework of steel or reinforced concrete. The Spanish style of the Mission Fathers has some adherents, but the sentiment for church buildings in Gothic dies hard. The great influence of Daniel H. Burnham and of Charles F. McKim combined was insufficient to dissuade the Episcopalians from accepting a Gothic design for the Cathedral Church in Washington, where the Renaissance or some version of classic Roman style had been adopted and used on a colossal scale in the lay-out of avenues, streets, public buildings, and even in the waiting rooms of railway stations. Where a great seriously-considered scheme of a uniform treatment for a capital city is violently transgressed in this way the singular notable exception is to be regretted, and the work of Sir Christopher Wren might with greater appropriateness have served as model for the Cathedral, for it can hardly be hoped that a piece of modern Gothic, even by the hand of such a world-recognised master as Bodley, can excel to the extent of crying down the insistent note struck by so many of the surrounding buildings.

Under the too usual circumstances here in England, in places where no civic scheme exists or remains as a relic of a more gracious age except in a hopelessly shattered condition, the cry of Gothic style for churches may be at least as rational as the arbitrary demand for any other practicable method of design. England is not yet pledged to the steel frame to anything like the same extent as is America, and no fashion of architecture need be considered hopelessly out of date if buildings can be erected in it at practicable rates of expense for building and maintenance. To a very great extent England has given sanction to some form of abbreviated Gothic as a living style appropriate to church building, and with the very excellent reason, or excuse, that we are in possession of a great many churches handed down, in part at all events, from Gothic times. Public sentiment is probably as strongly in favour of the retention of these survivals as it is of anything architectural, so that they stand for a permanent element in the architectural whole.

Had the Gothic churches been delivered to us practically intact we might perhaps have acted in the injudicious but generous fashion of our grandfathers and restored them vigorously into a different and unrecognisable state. But the genuine fragments have become to us far more precious than the whole buildings were to them, and it has become a matter of good taste and sensibility to perform the necessary repairs or enlargements of a church in a style which will harmonise with that of the building. This sentiment of the conservator has done good work in preserving ancient relics, and, more than that, has encouraged the formation of a school of inquirers into Gothic methods of work whose expert knowledge is also valuable in the design of new church buildings. An honorary advisory committee of architects composed of enthusiastic lovers of Gothic art actually guides the councils of the Incorporated Church Building Society, and, what is more, decides upon the plan for a future church or church enlargement which shall receive the Society's grant and which shall not. This consultative body has done extremely good work in passing suitable plans and amending or rejecting bad ones, for the pecuniary assistance is eagerly sought after in these material times when funds for church building are hard to come by. Besides adjudicating on designs laid before them by other architects, the members are free to undertake church building work on their own account, and their mutual association has undoubtedly modified and improved the designs of the individual members. The Gothic art understood by the architects of the Gothic Revival was all too often a matter of the addition and superimposition of details culled from the famous examples made familiar by the text-books, and many of the buildings produced under this *régime* are nightmares of inhuman and rigid copyism without one spark of informing common sense. The newer school face their problem in a far more reasonable spirit. The economy of the case probably presses more heavily than in our grandfather's time, when the population was not so large and agriculture maintained a larger proportion of it than at present. Churches must be planned and detailed to show suitable results for a strictly limited outlay. With this spirit of rational economy has grown up a taste for the evidences of it. We turn with a very real distaste from the expensive and overloaded works of the Gothic Revival with their redundant buttresses and multiplied carvings repeated in pairs of alternatives to the point of nausea, and welcome a more sober school of design in which utility guides the architect to harmonise his new work with that of the old master builders without attempting to compete with them in the production by machinery or repetitive labour of the fanciful carvings which grew spontaneously from the worker's hand under the very different conditions of cloistered life.

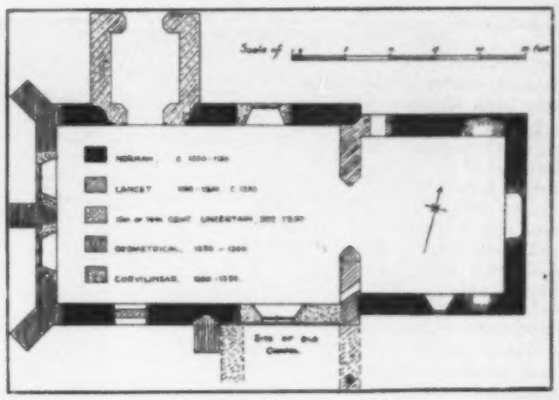
A somewhat Spartan bareness characterises some modern Gothic designs approved for grants by the Church Building Society, and architects of marked personal individuality agree in avoiding the needless buttresses, carvings and mouldings. Financial stringency has acted the pruning knife with excellent results.

The beautiful church of St. Aidan, Sudden, Rochdale, designed in 1915 by the late Temple Moore, possesses this characteristic of restraint. The work is based upon the simpler type of pointed-arch late Norman work such as was used by the Cistercian Fathers in the nave of Rievaulx Abbey, Yorkshire, with square-edged piers, plain exterior walls, without external buttresses—unless the stair turrets may pass for such. The internal arches are composed with plaster soffits and ashlar at the edges in imitation of Norman methods of construction, though, in Norman times, the skim coat of plaster would have been carried over the whole surface, ashlar included, and colour detail applied to supply the interest obliterated in the construction.

A design by Mr. Walter Tapper for St. Stephen's Church, Grimsby (the perspective of which has already been published in *The Builder*), shows how a sufficiently distinctive result can be obtained without excessive cost. While the design is quite different in feeling from that last mentioned, the same directness of outlook has guided both architects. The wide exterior surfaces of the church are only broken up with very broad flat buttresses in brick. Large Perpendicular windows light the building instead of the lancets in St. Aidan's. The interior of the Grimsby church is very effective, with the maximum of dignity obtainable from simple means. Large piers carry arches across the church to support the purlins of the roof. Arches of comparatively small proportions, pierced through the piers, permit of aisles or alleyways being made close to the exterior walls of the church. Side by side with this wisely simplified Gothic, several modern churches have been designed in a style which obviously owes a great part of its inspiration to the Gothicised Byzantine work of the late John Francis Bentley in the new Roman Catholic Cathedral at Westminster.

This style might be still further modified for use in districts where stone is plentiful and can be varied by adhering more or less closely to early Christian or Byzantine models. A very beautiful example, the Cathedral Church of Colombo, by Mr. George H. Fellowes Prynne, F.R.I.B.A., carries on the tradition established by Bentley, with suitable adaptations to the tropical climate.

Fig. 1.—**Exterior of nave and north porch from N.W., Wilcote Church, Oxon.**



Plan.

AN ANCIENT VILLAGE CHURCH, WILCOTE, OXFORDSHIRE.

By W. A. BEAMES AND H. V. MOLESWORTH-ROBERTS.

In this fair land of England, hidden amidst the innumerable hills and valleys, shady ravines and grassy lowlands with which it is covered, are many little nooks and corners which nature has made sacred in her own delightful and inimitable way; and in nearly every one a meek but eloquent symbol of the Faith—be it tower, spire, or only mossy roof—is sure to be discernible.

In one such picturesque retreat in the delightful wooded county of Oxfordshire—twelve miles from the learned city which has given it world-fame—is the almost unknown little parish church of Wilcote, a gem of its kind. Its size befits its surroundings; it is just over 50 ft. in length, and its plan is of the simplest. Besides nave and chancel, there is only a north porch, and an open bell-gable at the west end does duty for a tower; true, there was once a kind of transept opening southward from the nave, but that has long since gone. It must have been of early date, for the sharp-pointed archway giving access to it indicates its site; this arch is still visible externally, though it has since been blocked.

Nave and chancel are both of very small dimensions (Fig. 3), and we can easily recall the days before the pews, when the score or so of villagers knelt silently beside the benches running up the side walls of the nave and on the rush matting in the middle, while the tinkling of the sacring bell announced the elevation of the Host in the sanctuary beyond.

The chancel is so short—shorter, in fact, than its width—that it is practically square on plan. This is somewhat unusual, and is reminiscent of the early days of the chancel (then a mere square sanctuary) in pre-Conquest churches, such as Escomb (Durham); so much so that one is almost tempted to ascribe to it a Saxon date, but there appears to be no evidence in this church of any period earlier than the Norman. The small space within this chancel can have accommodated little beside the priest and acolytes; if there were any avowed singers besides these, they must surely have sat within the nave. This arrangement is still found at the present day where space requires it—as at St. Michael's Church, St. Albans—and is a reminiscence of the early Christian practice, as still seen at St. Clemente, Rome.

Having got so far, it will be as well to trace in imagination the growth of the building under successive generations. Of the Norman period, perhaps the most conspicuous remnant is the fine south doorway of the nave (Fig. 4), now blocked. It is of fairly simple type, with a three-quarter shaft in the jamb carried up into the arch as a bowtell, further capped by a simple billet, similar in character to a dentil-course; the doorway is, therefore, probably of the early twelfth century. The surrounding masonry is likely to be just as ancient, and, in fact, the greater part of the walls of the nave may well be of this period.

In the south wall of the chancel is one of the most significant features of the church—a tall, narrow window with a rudely-formed round head (Fig. 5). It is, at any rate, Norman; its proportions would suggest a Transitional date (*i.e.*, about 1180), but its primitive character and the squareness of the chancel plan give an impression of earlier origin. Indeed, it is possible that they date alike from very soon after the Conquest, when Saxon traditions were still so much in evidence. It is externally of crude construction, and only 12 in. wide, but is deeply splayed within.

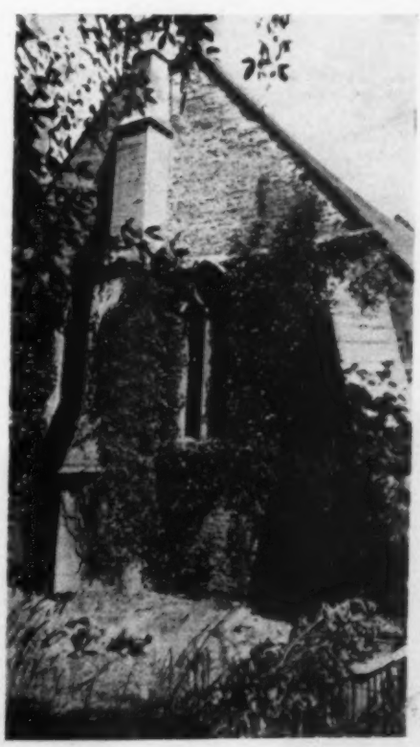


Fig. 2.—**Exterior of west end of nave from S.W., Wilcote Church.**

The Lancet period—early thirteenth century—is well represented in this church; indeed, a large part of the fabric of the chancel, if not part of the nave also, hails from these early times. To this period may be allocated the archway already mentioned, in the nave wall towards its eastern end; it gave entrance to the southern adjunct, which probably served as a chapel, and was in an unusual position, transeptal, in fact, in nature; the buttress existing may be part of its western wall. Externally, the chancel is notable for its low buttress-like projections at the angles (Fig. 5), returned round the corner (unlike true buttresses) and carried right across the east wall as a plinth.

Internally, too, several features claim attention. Structurally, the chancel arch (Fig. 3) is the most notable; it is sharply pointed in form, and of two orders plainly chamfered. The inner order is brought down on each side to a corbel fashioned in the form of a human face—the northern benevolent in character (probably representing an angel), the southern malevolent in aspect. They, perhaps, represent the forces of good and evil, and are unique reminders of the rather grotesque symbolism of the Mediæval Church. Probably they are coeval with the arch, though there is a possibility that the two orders were originally carried down the jamb together, and the masks carved when the inner order was removed. The outer order of the arch is carried straight down, but is stopped just above the floor and returned upwards over each angle of the plain rectangular plan (at floor level) in the form of a projecting cusp, resembling on elevation the section of a water-holding base.

In the south end of the flanking wall has been cut an oblique hagioscope, so that those in the corner of the nave could view the celebration at the altar.

Near the chancel arch, in the north wall of the chancel, is a fine priest's doorway, headed by a shoulder arch; it is probably also early thirteenth century in date, and is simple in character, with a narrow chamfer. The heavy oak door bears characteristic hinges, apparently of early date. East of this, internally, is a small rectangular recess, whose length slightly exceeds its height—it was probably an aumbry, perhaps used to contain the service books or Sacramental vessels. The edge, again, is slightly chamfered. The little church was probably always devoid of a vestry, as at present, showing that the priest robed in the Sanctuary, probably behind the chancel arch-pier.

These relics are sufficient to enable us to picture the little church as it was about the year 1250. The chancel, within, was very much as now, but the east wall was probably occupied by a triple group of lancets or, perhaps, even tall Norman lights, like that in the south wall, which had already acquired the dust of a generation. The nave was

probably still accessible through the Norman south doorway, and lit by small windows, perhaps, again, like that in the south wall of the chancel, while the southern chapel had not long been erected.

To the Geometrical Period (later thirteenth century) may probably be allocated certain features of the church which have in common a riper development of detail, such as foliation, though the possibility must always be allowed that this is merely a matter of circumstance and suitability, and that they may be coeval with the earlier work referred to above. These features, however, would seem to belong to later in the century, and if so were decidedly improvements in the little church.

One of the most important of these was the east window (Fig. 3); the three lights are distinct, but comprised under one covering arch, both inside and out. This, and the nature of the cusping—cinquefoil in the middle and long-lobed trefoils in the side lights—justify us in placing the window in this later period, viz., not earlier, in all probability, than 1250. The spandrels of the tracery are pierced—another confirmation of this point—and, like the lights below, are filled with modern stained glass. In the south wall of the chancel is a piscina, also probably of the same period; it is very primitive in character, save for the trefoil form of its pointed arch, and encloses a plain credence shelf. The dish of the piscina has been filled in.

The nave roof is of fine substantial oak, and would appear to be black with age. The pitch is steep, and it is of the arch-braced collar type, four arch trusses occurring, widely spaced. The space above this collar is partly occupied with open timber panelling; pierced tracery is formed by quatrefoils placed over lights with expanded trefoil heads, as in German architecture. Judging by this design—if the timbering is ancient—the roof may perhaps be allocated, like the east window, to the period under discussion. The braces are borne, at their feet, on moulded plaster corbels, in which (if ancient) the three-quarter rolls and hollows likewise suggest a late thirteenth-century date, as do the quatrefoils in the continuous wall-plate or frieze which connects them. Under the collar the braces meet at an obtuse point. Interesting evidence, however, is contained in Buckler's drawings of 1844, where the general design is faithfully indicated, but no pierced work is represented; the braces, too, are shown semi-circular in form, but Buckler wrote with a revivalist motive, and this would be a quite natural simplification.

The chancel roof, also apparently original, is elaborate in type, and of very careful workmanship for so small a chancel, but serves to indicate clearly how necessary the mediæval builders thought it to bestow the most devotional labour upon the beautifying of the most sacred part of their village shrine. This roof is of the boarded trussed rafter type, with rosettes at the angles of the square panels formed. An arch-brace truss occurs at intervals. For corbels are substituted plain wood shields of simple type.

The next important addition was the provision of a bell-gable at the west end. So small a parish could not, perhaps, afford a tower, and, in any case, such an erection would have ill accorded with the scale of the little building. The present turret is modern, but the base existed in 1844; an earlier gable is recorded, the design of which was probably followed. If so, it evidently hailed from about the same time as the east window, since, like that, it has its opening cinquefoiled. It is brought down on to a central western buttress (Fig. 2), which is apparently original. The two diagonal angle-buttresses at this end of the church may have been put up at the same time. All three are almost improportionate in massiveness, and suggest that a more ambitious belfry was contemplated.

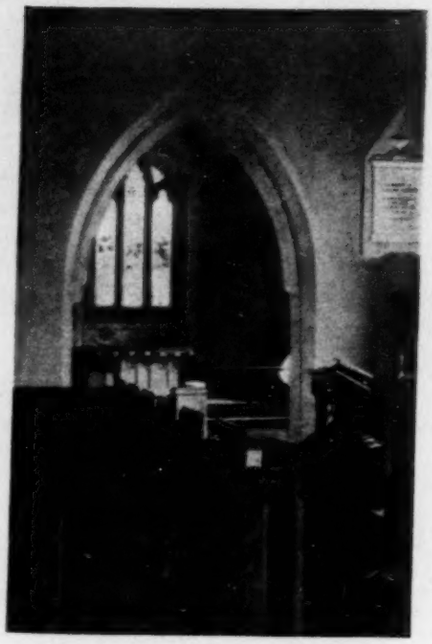


FIG. 3.—**Interior of nave and chancel looking E., Wilcote Church.**

The font (if ancient) is perhaps of this period, judging from the quatrefoil panels round its octagonal upper part, and its tapering pedestal.

During the early fourteenth century—in the dawn of the Curvilinear Period—several windows were added to the nave; each is small, with two lights, and no doubt was simply an enlargement of an existing lancet or Norman opening; the head is traceried, with pierced "eyes" and a central ogee light, whose curved bars indicate an approach toward the middle of the century. The heads of those at the west end (Fig. 2) cut slightly into the string course, which is, therefore, evidently of earlier date—probably coeval with the buttresses.

Somewhere about this time the Lancet transeptal chapel on the south fell or was pulled down, and the arch blocked up; another window like those described was inserted in this screen wall (Figs. 4, 5). A buttress stands either on the site of its western wall (of which it may indeed be a remnant) or immediately to the west of it. The wall of the chapel on the eastern side is flush with the jamb of the arch giving entrance, and if the west side was similarly planned the buttress probably stands exterior to the chapel site.

The north porch (Fig. 1) offers, perhaps, the most complex problems in the diagnosis of the church. Parts have been so much restored that at first sight it appears to be a modern erection of the date of the restoration of 1868; it appears, however, on Buckler's view dated 1844 and is evidently ancient. The reason for its provision was probably that the village had expanded on that side of the church, or that some sacred use of the ground on the south forbade entrance there.

Its inner doorway, pointed in form and of two orders, is peculiarly moulded; fillets separate quarter-circle rolls or ovolos, somewhat like bowtells. Buckler's drawings of 1844, however, show these as wave mouldings; it is possible that his record is accurate and the mouldings since re-cut, but more probable that the present jamb is original and that Buckler took a little licence with the moulding sections, for his work was avowedly published as a fourteenth-century model for revivalists, and it is natural that he should conform the whole design as far as possible to the desired type. The wave form is certainly of the fourteenth century in the majority of cases, but the ovolos might indicate even earlier than that century, or at any rate its earlier part. The hood-mould, moreover, strongly suggests the thirteenth century.

The outer doorway is yet more difficult to analyse. The jamb is of a much simpler type, with merely broadly-chamfered angles; this is analogous to the chancel arch, and suggests a thirteenth-century date. The arch itself, however, apparently coeval with the jambs, is moulded; the plainly-treated hood-mould is brought out at right angles, and in the upward continuation of the chamfer is sunk a three-quarter hollow, usually a mark of the fourteenth century. The arch is of the "drop" form, which, used both in the dawn and decay of Gothic architecture, favours either a rather later or a much earlier date.

It is to be assumed, therefore, that the porch, with both its archways, was erected somewhere in the fourteenth century, the older nave wall being broken into for the purpose. If all the parts of this porch are not coeval, their exact relative order can only be conjectured by the above indications. The simpler nature of the outer archway jamb may be attributed to the fact that no door had to be enclosed within it. The alternative theory, however, must be kept in view that the porch and both inner and outer openings were originally built in the thirteenth century, and that the drip and possibly the whole of the mouldings of the inner opening.

FIG. 4.—**South doorway of nave.**

FIG. 5.—**Exterior of nave and chancel from S.E., showing Norman window, Wilcote Church.**

as well as perhaps the jamb of the outer arch, remain from this time; if this is so, the head of the outer arch was doubtless remoulded in the fourteenth century, along with the arch mould of the inner one. However this may be, the Norman doorway on the south seems to have gone out of use when, or soon after, the porch was erected, and was built up.

So the church has remained, reduced on the south but augmented on the north, for five hundred years. It survived the ambitious rebuilders of the fifteenth century and kept intact the pristine charm of an earlier age; the eager eyes of early Protestants happily passed by this little shrine when they spread their monumental tombs throughout the churches of this land. All that testifies even to eighteenth-century hands is a vault—perhaps not even boasting this antiquity—outside the north nave wall, while a few modest mural tablets—completing the inevitable note of grave-like sanctity—pay testimony to departed worthies of a century ago. The local family of the Pickerings, ever watchful of the church which they doubtless felt to be their especial care, had it privately restored in 1868; but only certain parts of the ashlar did they see fit to touch, and ivy has now again restored whatever may have been lacking of the spirit of past ages The church, therefore, betrays much fewer traces of the cold hand of modernism than do so many of its fellows, and this fact should increase our appreciation of its rustic charm.

It is indeed a meek and unpretentious monument, but suffices to enshrine the spirit of devotion which is the inspiration of our village churches. Its surroundings are touched with a similar atmosphere of the peace which comes of deep seclusion. South of it still stands an old barn, primitive in type, which once belonged to the Rectory; here, it is said, the tithes were paid—a memory of an ancient custom. It now forms part of the rambling buildings of the Grange, one of the three buildings comprising the tiny village; cottages there are none, or very few, the group being completed by an Elizabethan building and the manor house. The last, though perhaps showing outwardly but little of its charm, is fraught with romance, for it occupies the site of a monastic settlement.

Old London Bridge Arch.

On Monday last, Sir Robert McAlpine, head of the firm of contractors who are concerned in the work connected with the erection of new office premises on the site of the old Pearl Assurance building at the north end of London Bridge, received a deputation from the Society for the Protection of Ancient Buildings with regard to the fate of the arch of old London Bridge. The deputation consisted of Mr. J. Frederick Green, M.P.; Professor W. R. Lethaby; Dr. Philip Norman; Mr. Emery Walker; and Mr. Leonard Pomeroy. Mr. W. H. Leverton was present on behalf of the Concrete Institute. The meeting was arranged because it was understood that the firm, in conjunction with the promoters of the forthcoming British Empire Exhibition at Wembley Park, were willing to bear the expense of removing the arch to Wembley Park and re-erecting it there as a permanent memorial. The deputation were assured of the keen desire on the part of Sir Robert McAlpine & Sons to preserve the arch *in situ*, but were informed that no funds were available for the purpose, and neither the City Corporation nor the Bridge House Estates Committee appeared able to assist in the matter. The cost of preservation had been estimated at £11,000, £4,000 of which would be accounted for in recouping the builder-owner, Mr. Tilden-Smith, for the loss of cubic space. Mr. Tilden-Smith had already generously delayed the demolition for many months at a cost of about £70 a day. That delay could obviously not be continued, and as no suitable alternative proposition had been put forward, the demolition must be begun immediately.—Mr. Green said his society appreciated the desire of Sir Robert and the building owner to preserve the arch *in situ*, but did not associate itself with any scheme to remove and preserve it.

Altar Cross in Silver, St. Chad's Church, Bensham, Gateshead-on-Tyne.

Designed and executed by Mr. W. Bainbridge Reynolds.

[The centre contains the Agnus Dei standing on a book with the seven seals of the Revelations upon the Altar. The extremities of the arms of the Cross have four Angels censing the Agnus Dei. The base is surmounted by a Dragon.]

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ILLUSTRATIONS.

Churches.

In view of the Church Congress now being held at Sheffield, this issue is chiefly devoted to church architecture and decoration.

Memorial Chapel, Holy Trinity Church, Marylebone.

The main idea governing this design was to keep in harmony with the work of Sir John Soane without slavishly adopting the details of the church. Certain existing buildings have been brought into requisition, namely, the ceiling in Sir John Soane's own house in Lincoln's Inn Fields; for the screen, Napoleon's Library, Chateau de la Malmaison; for the reredos the design is taken from Mantegna's fresco of the Gonsaga family; and the Holy Table from one of the City churches. To bring some sort of unity to this assembling of the designs of different artists has been difficult; whether it has been successful must be left to the judgment of the public; whatever merit there is belongs to Mr. Godfrey Allen, who assid ously laboured towards this end.

Mervyn Macartney.

[The left hand window is a memorial to Louis Southwell Guéret Jones (the only son of Mr. and Mrs. Walter Southwell Jones), who lost his life in the war. The artist's description of his design is that it embodies two youthful figures, one representing the scholastic and the other the physical side of school life. They are each on a path leading to the central figure, which is symbolical of "Fortitude." In the background are representations of the Old School Buildings, Harrow, and the Parish Church, which are surmounted on the left by the badge of Harrow School and on the right by the arms of Magdalen College, Oxford. On the botto n border is a representation of the regimental badge. The right hand window is a memorial to Thomas Bridgwater Jones, a younger brother of Mr. Walter Southwell Jones, who died in France while serving with the American Y.M.C.A. He was an American lawyer, and was attached in a legal capacity to the American forces. The artist's description here is that the design embodies a central figure representative of "Law," which is supported on the left by a figure symbolical of "Prudence," and on the right by one symbolical of "Justice." The background includes a representation of Mount Vernon, the home of George Washington, while the American badge is included in the centre of the lower border.]

Ely Cathedral.

It has been claimed that the octagon under the dome of Ely Cathedral is unequalled by anything of the same character in the country. Its construction (illustrated by a photograph of a model on this page) was so designed to prevent misfortunes which had arisen at some churches, and particularly at Ely Cathedral in 1322. In the middle of this church, as in most other churches, anciently stood a lofty stone tower supported by four large pillars, the foundations of which have been traced. By the united pressure of the arches of the nave and transepts wanting a proper counterpoise, these pillars gave way, with the result that the tower fell and demolished the choir, which was then beneath, and probably the three continuous arches eastward were weakened so that it was necessary to take them down. By the expedient of an octagonal form the architect (Alan de Walsingham, one of the monks, who was at that time Sacrist and afterwards Prior of the convent) in a great measure guarded against future accidents of the same character. He also embellished the choir with an elegant set of stalls, which has since been placed in the choir. Walsingham retained the choir in its former situation, whereby the beauty and grandeur of the octagon were greatly obscured.

The stonework of the octagon occupied six years in building, but it was fourteen years before the woodwork of the vaulting and lantern was completed in 1342. The model illustrated on this page gives some idea of the forest of oak hidden by the wooden vaulting. The eight great angle posts are 3 ft. 4 in. by 2 ft. 8 in. in section. The dome is indicated in the model, and 18 ft. above the dome is the leaden roof of the lantern, which has also to be supported.

The Parish Church, Royton, Lancashire.

The church has been re-arranged as shown on the two key plans, including new chancel screen and panelling at the west end of the church. Behind the font are fixed three modelled panels by Miss M. E. Rope, and a tablet with the names of members of the congregation who fell in the war. The screen behind the High Altar has doors connecting with the new sacristy, and the centre portion forms the reredos. The new Lady Chapel, also illustrated, has been delayed owing to the necessity for building a choir vestry before the old vestry can be converted. The architect is Mr. J. Harold Gibbons.

All Saints' Church, Southsea.

This church is to be built on the site of—and to replace—the existing one, which is in a dangerous condition owing to subsidence caused by mine workings underneath the structure. The new church is to be built of local stone inside and out, and the existing organ is to be reconstructed and repaired. The plan is of the c ruciform type with narrow passage aisles, with the main seating accommodation in the nave. The chancel screen, rood, organ case, gallery, &c., will be carried out in oak, and the reredos in stone. The nave, chancel and sanctuary roofs will be ceiled on the underside with a semicircular barrel, with curved transverse ribs and built of curved beams over the points of supports.

The church is to be carried out from the designs of Messrs. C. G. Hare and A. V. Heal (Messrs. Bodley & Hare), 11, Gray's Inn-square, London, W.C.

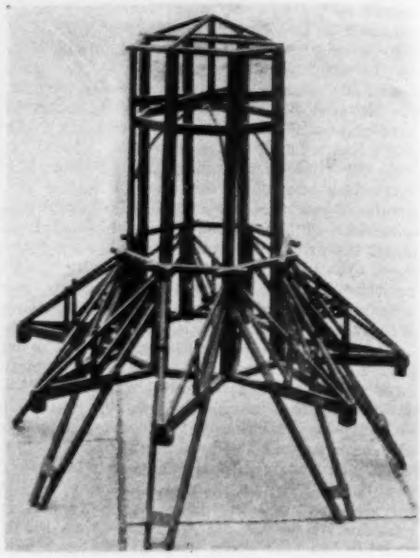
MEETINGS.

Friday, *October* 13.

Royal Sanitary Institute.—Discussions on "Health Education of Children," to be opened by Mr. J. S. Peebles; and "Open-Air Schools," by Mr. E. E. Morgan. At the City Hall, Cardiff.

Saturday, *October* 14

Royal Institute of British Architects.—Visit to Westminster Hall. 3 p.m.



Framework of the Lantern at Ely Cathedral.
[From a model made by the son of the late Dean Stubbs.]

UNIVERSITY OF LIVERPOOL SCHOOL OF ARCHITECTURE.

We have received the syllabus of the University of Liverpool School of Architecture for 1922-23. The courses in the School are designed to provide a full professional education at a University standard for all who intend to practise as architects, side by side with students of other professions. The teaching of design is based upon the methods of the Ecole des Beaux Arts at Paris, and is somewhat similar to that of the American schools of architecture, adapted to meet our different requirements. While the student is taught design on a basis of monumental planning in order to equip him with the means by which to approach with confidence the larger problems architecture presents, every effort is also made to give him that intimate knowledge of detail, materials and construction which distinguishes the best English work. With this double end in view, after combined study in his first year of simple construction and the elements of architectural form, he passes, in his second and later years to a progressive series of designs both of a constructional and monumental character.

Students, after the first three years of their course, on which a certificate is given, spend the next two years partly in the School and partly in some approved form of practical work, such as an architect's office, in which they can generally earn sufficient money to support themselves. The School is recognised by the Board of Architectural Education of the Royal Institute of British Architects, and its courses meet all the requirements of the scheme propounded by the Board.

The courses of the School lead to the combined Certificate and Degree of Bachelor of Architecture (B.Arch.), and to the combined Certificate and Diploma in Architecture. The University grants the Certificate at the end of the third year of either the Degree or the Diploma Course. Students who obtain this certificate in the first class are exempted from the Intermediate Examination for Associateship of the Royal Institute of British Architects; while students who obtain the Degree or Diploma are exempted from the whole of the Final Examination for Associateship of the Institute except in the subject of Professional Practice, in which subject they are required to take a paper set by the Institute's examiners.

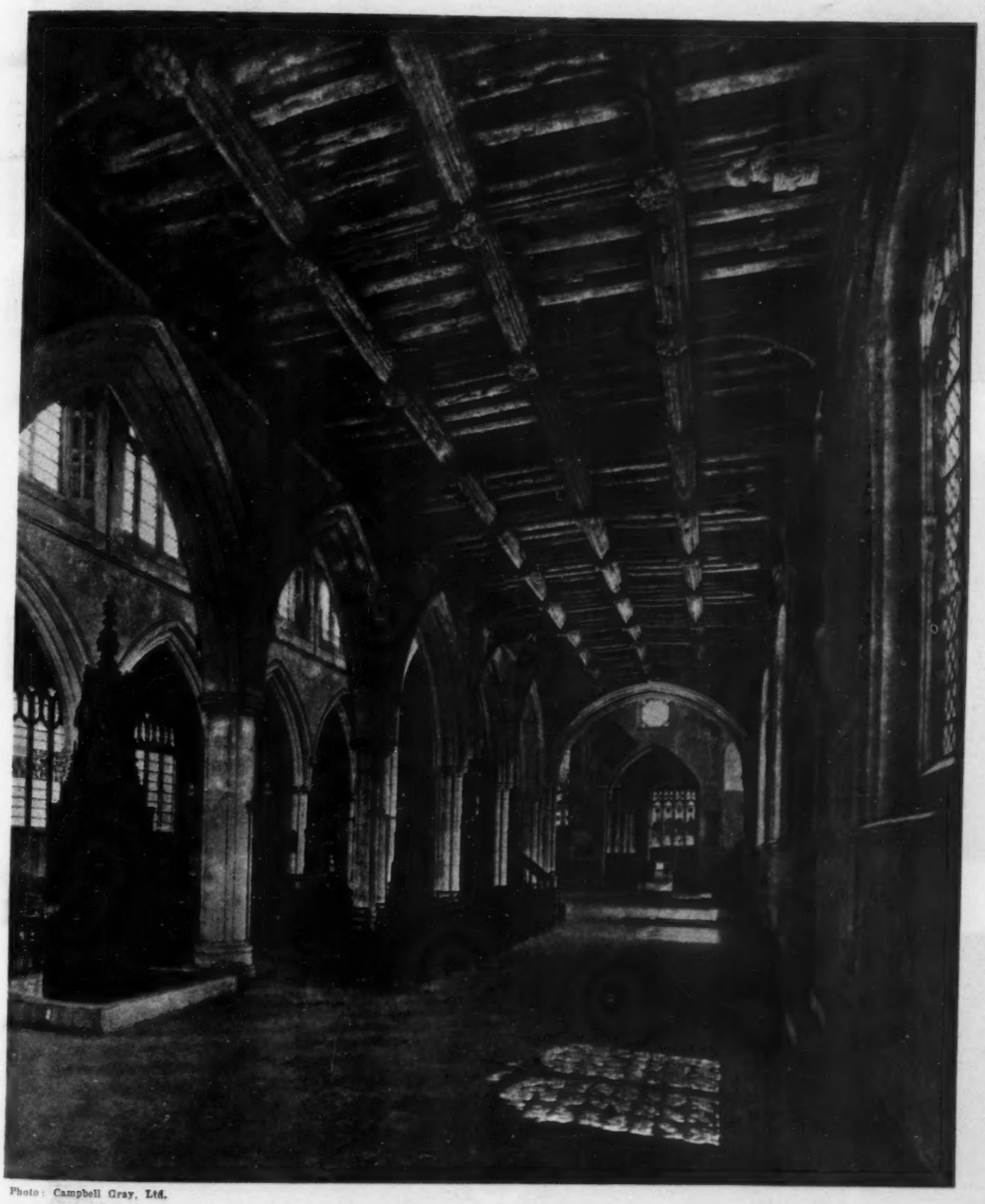
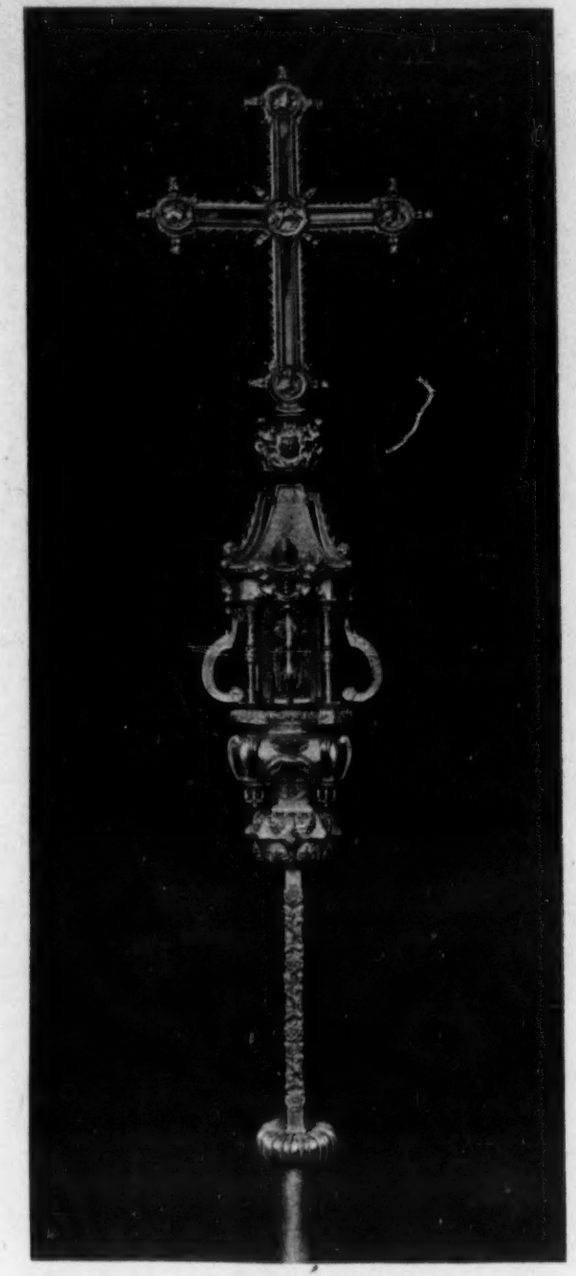


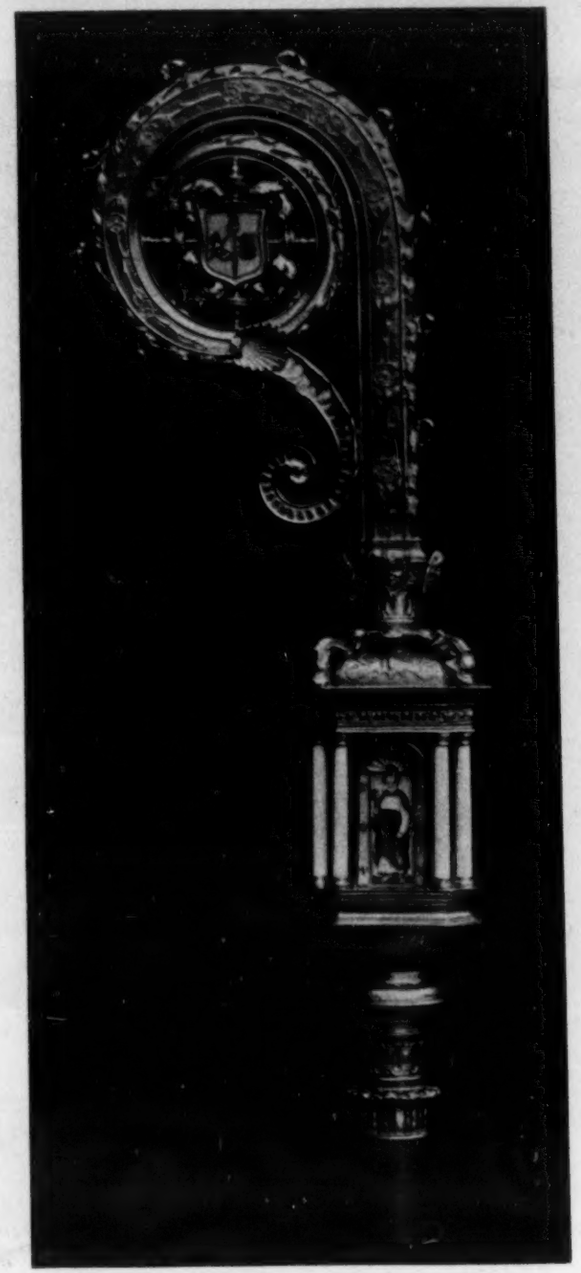
Photo: Campbell Gray, Ltd.

Thaxted Church, Essex. (*See p.* 544.)



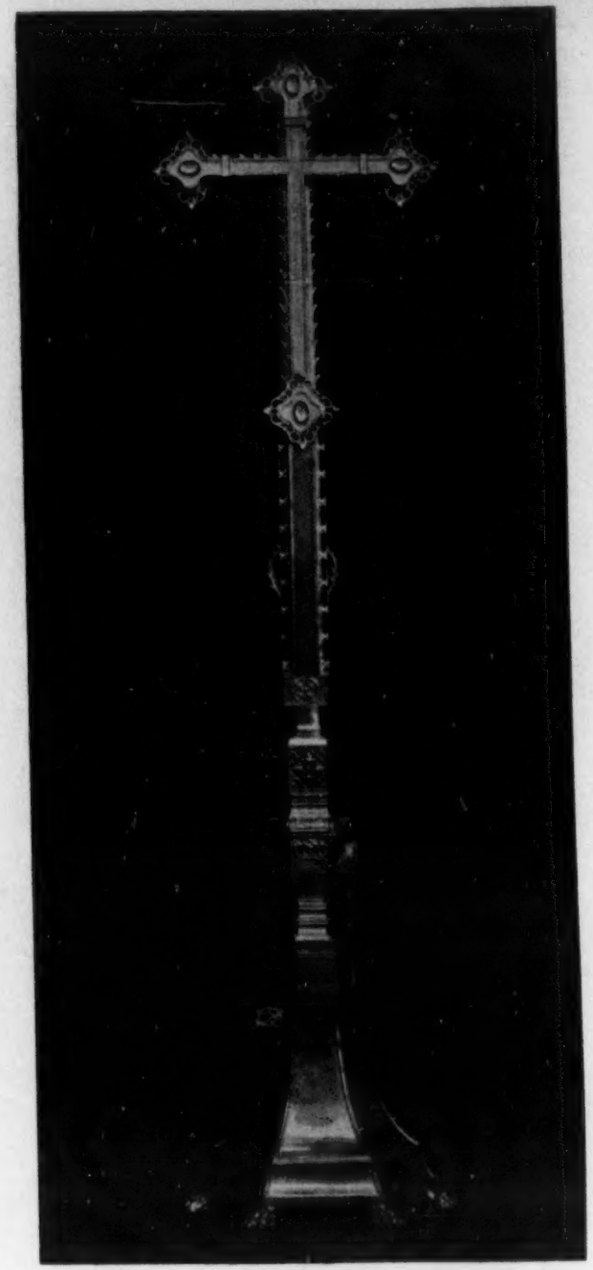
The Primatial Cross of His Grace the Archbishop of York, in Silver Mercurial Gilt.

[The cross is of rock crystal with amethysts.]



The Pastoral Staff of the Lord Bishop of Sheffield.

[Bronze gilt with four enamels and parts in ivory.]



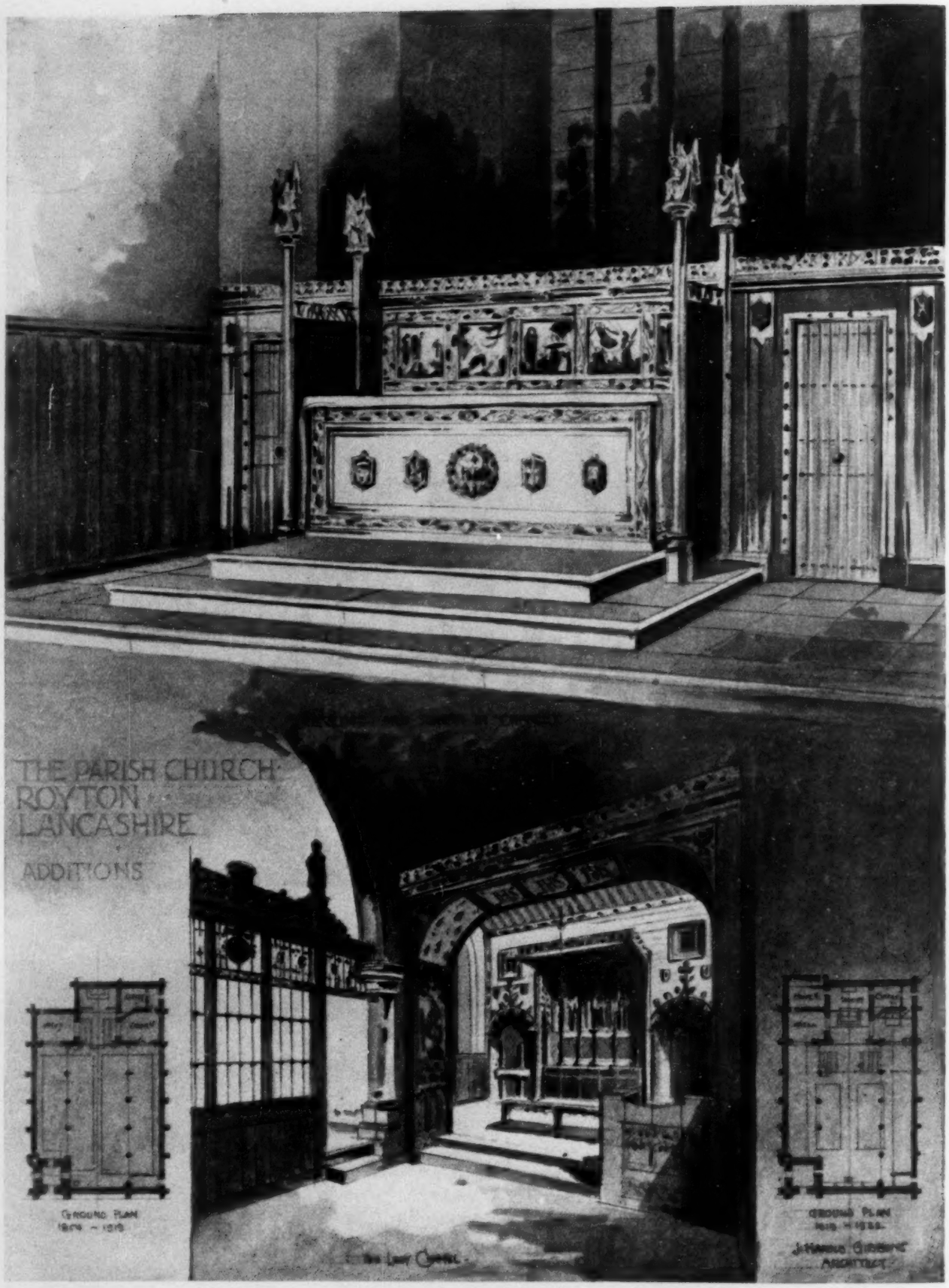
The Cross of the High Altar of Liverpool Cathedral.

[Silver with rock crystals. Height, 6 ft. 5 in.]

Mr. G. Gilbert Scott, R.A., Architect.
Executed by Mr. W. Bainbridge Reynolds.

Designed and executed by Mr. W. Bainbridge Reynolds.

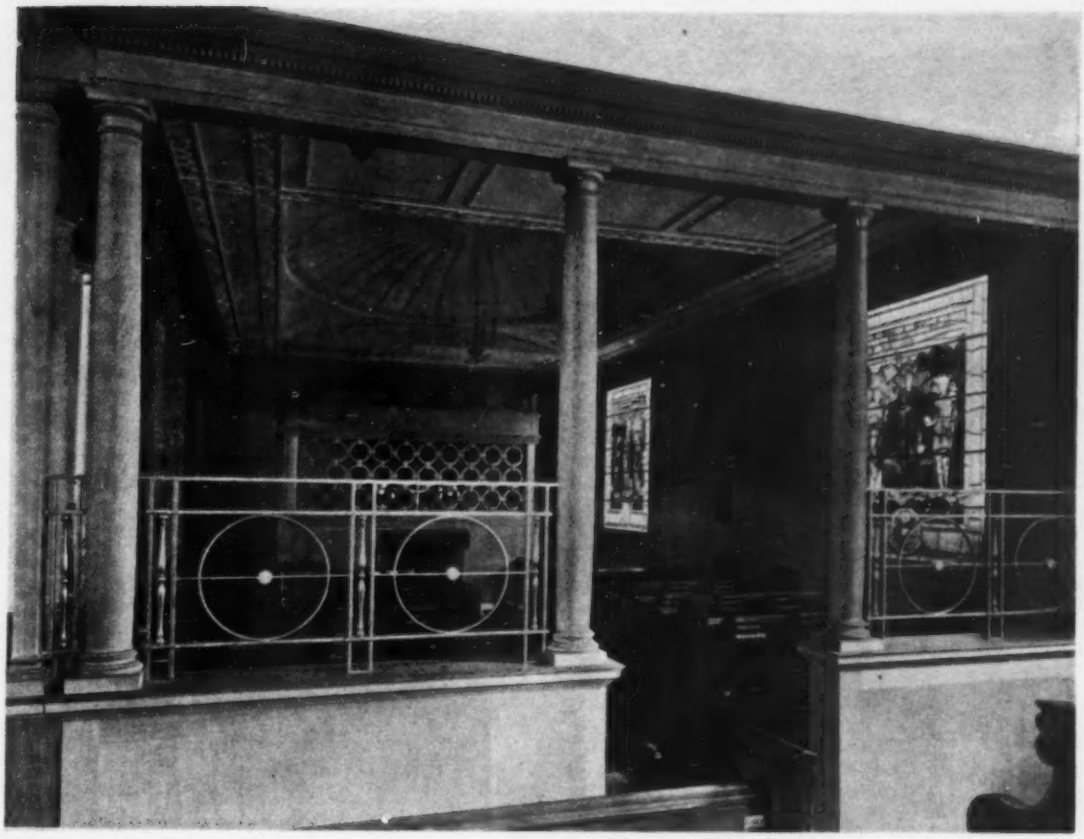
Designed and executed by Mr. W. Bainbridge Reynolds.



R.A. EXHIBITION.

THE PARISH CHURCH, ROYTON, LANCASHIRE.

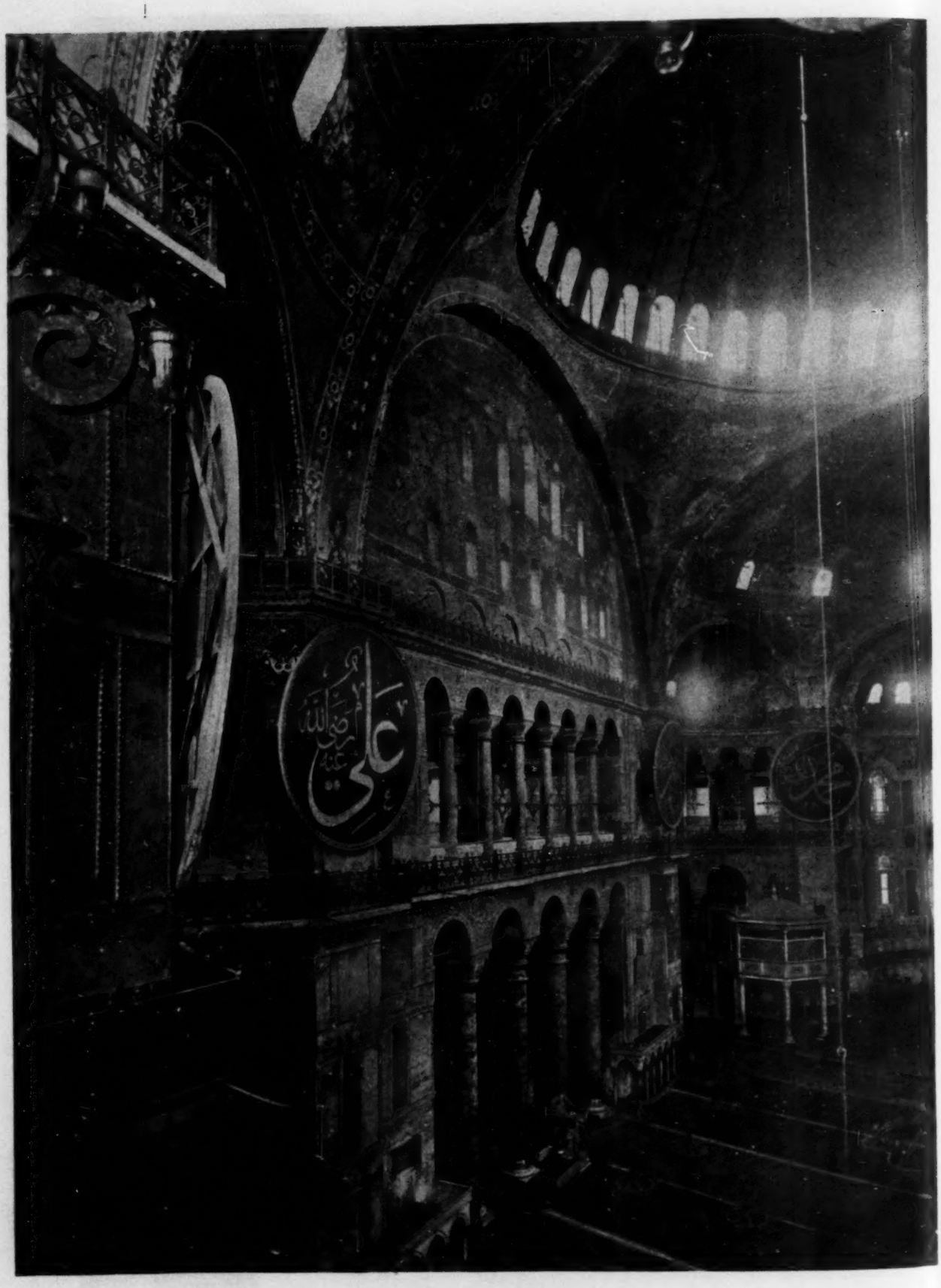
Mr. J. Harold Gibbons, Architect.



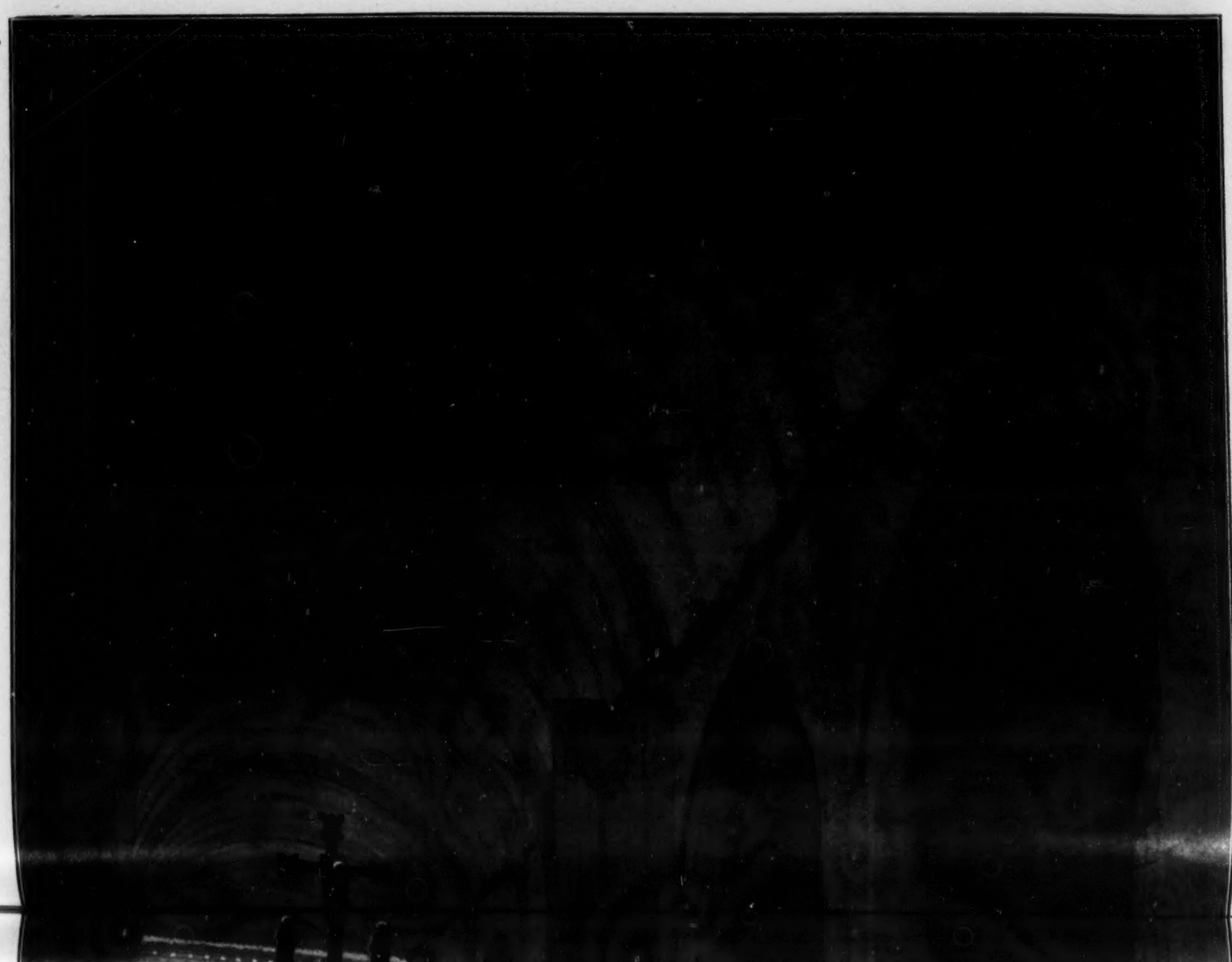
MEMORIAL CHAPEL, MARYLEBONE PARISH CHURCH.

Mr. Mervyn E. Macartney, B.A., F.S.A., F.R.I.B.A., Architect.

Ely Cathedral: West and South-West Towers, from the Dean's Gardens. (See p. 536.)



St. Sophia, Constantinople.



CHURCH OF ALL SAINTS, SOUTHSEA, HANTS: INTERIOR, LOOKING EAST.

MESSRS. C. G. HARE and A. V. HEAL, Architects.

(MESSRS. G. F. BODLEY, R.A., and C. G. HARE.)

THE CHURCH OF ST. SOPHIA, CONSTANTINOPLE.—I.

By SIDNEY TOY, F.S.A.

Of all the architectural treasures of Constantinople none is to be compared with the great church of St. Sophia, which stands on high ground near the eastern extremity of the city. Justly celebrated in prose and in verse throughout the whole Mediæval period, the striking beauty of this church has evoked the praise of travellers in all ages since its erection. And to-day, in spite of its fourteen-hundred years of existence and notwithstanding the earthquake shocks to which it has been subjected, or the vicissitudes through which it has passed, it remains one of the chief glories of the earth. No one regarding this majestic fane from within can doubt that it is as much a triumph of devotion and faith as it is a masterpiece of design and construction.

The first church raised on this spot was dedicated in A.D. 360, during the reign of Constantius, son of Constantine the Great. It was probably of the basilican type common in the period and covered by a timber roof. This building, after having been many times seriously injured by fire, was finally burnt to the ground during the Nika riots of 532, in the reign of the Emperor Justinian. Animated by the desire to rebuild the church on a magnificent scale and of permanent materials, Justinian employed two architects—Anthemius of Tralles and Isidorus of Miletus—who had already manifested considerable constructive genius, to superintend the work, and placed the whole resources of his great empire at their disposal for the supply of workmen and materials.

Ten thousand workmen were employed in the task, and it is evident that great energy was imparted to the enterprise, for the whole building was completed within six years from its commencement. During the progress of the work, various checks occurred, due to the daring methods of construction adopted and to the rapidity of building. On one occasion, while the eastern arch of the crossing was being built, but before it was completely turned, the temporary supports gave way and the whole mass was only prevented from collapse by its having rapidly turned and the weight thus thrown on the great piers. At another time the enormous tympana on the north and south, owing to inequality of settlement, pressed so heavily upon the columns beneath that it was found necessary to effect the removal of the upper parts of the tympana until settlement had occurred. The new church was dedicated on December 26, 537, and, apart from the rebuilding of its dome, the repair of its vaults and some accretions to its exterior, the building, as then completed, is substantially that which remains to-day, after the lapse of nearly fourteen-hundred years.

As will be seen by reference to Figs. 1 & 2*, the main body of the building consists of a central crossing, 104 ft. square, with wide semicircular apses at the east and west, from each three smaller apses open out—the whole forming one vast uninterrupted space, 270 ft. long. At a great height, the whole of this space is covered with vaulting, the parts of which bear such direct relation to each other and are so inter-dependent that the effect is of one continuous vault, beginning at the extremities and culminating over the central space in the great dome. No photograph or drawing can do justice to this effect, as, apart from the important question of colouring, it is almost impossible to impart graphically a true conception of the magnificent proportions of this building, but some idea may be gathered from the photograph taken from the west gallery which we reproduce. Flanking the central space on the north and south are aisles which extend the whole length of the church, and at the west is a long vestibule or narthex. Both aisles and narthex are of two stages, the upper stage—the gynæceum or women's gallery—being continuous all round the church, except at the small eastern apse, and opens to the central space by a series of arcades with low parapet walls (Figs. 2 & 9). A vaulted cloister was also built at the west of the church, but of this only the walk adjoining the narthex remains. This walk was enclosed at some early period and formed into an outer vestibule or exo-narthex.

The dome as first constructed was a low, saucer-like structure which, according to the account of a contemporary writer, was so perilously poised as to impart a feeling of insecurity to the beholder. During an earthquake in 558, the eastern portion of this dome with part of the semi-dome of the apse below fell in, and crashing down upon fittings beneath, destroyed the altar, ciborium, and ambo. At the restoration, which was undertaken immediately, several improvements were effected. The dome was entirely rebuilt and made almost hemispherical in form by giving it an extra rise of some 20 ft. The pendentives were considerably strengthened by blocking the stairways which had been constructed behind them and which led from the roof of the gynæceum to the base of the dome (Figs. 4 & 10), and by the addition of a vast amount of material above, thus incorporating the upper parts of the stairways, which apparently stood free as low turrets, and bringing the platform at the base of the dome to its present square form as seen in Fig. 11. The stairways already existing at the end of the great buttresses, and by which the gynæceum and its roof were approached, were now continued to their present level, and by this means, while additional abutment was secured to the dome, communication was re-established with its base (Figs. 1 to 5, and Fig. 10). It appears also that the tympana below the great lateral arches were completed at this period and the lower row of windows, which had assisted the lighting of the gynæceum, blocked (Fig. 9).*

After the disaster of 558 little alteration appears to have occurred until the latter half of the ninth century, when the west arch of the crossing and the vault behind it, showing signs of failure, were repaired and strengthened. The porches at the north and south ends of the narthex with the adjoining inclined ways to the gynæceum were probably built at this period. A hundred years later the western vault fell in, and was immediately rebuilt. Early in the fourteenth century, after the structure had been examined and reported to be in danger of collapse on the east and north sides, huge buttresses were built against the outside walls at the points of danger. These precautions, however, were inadequate, for during an earthquake thirty years later, in 1345, the eastern semi-dome fell down and in its fall carried away a portion of the structure it supported. While effecting the restoration it appears that other masses of masonry were added for the support of the external walls and four flying buttresses were thrown across to the dome itself from the arches at the inner angles of the great buttresses (Figs. 6 and 11). This repair was the last important structural work carried out on the building by the Greeks. In 1453 the noble church was confiscated by the Turks and forthwith devoted to the services and rites of the Mohammedan religion. Though the conquerors appropriated the treasures, covered the mosaics with whitewash, and destroyed the fittings, it does not appear that they damaged the actual structure. During the first 150 years of possession by the Turks the external walls were further buttressed, the eastern apse, which had been again damaged by earthquake, repaired, and the four minarets added. By the middle of the

*The figures referred to which do not appear in this issue will accompany the second article.

*It is obviously impossible here to deal at length with the numerous ancient writers from whom our information of these repairs and improvements is acquired. The above remarks are the result of a comparison of their accounts checked by a careful examination of the building itself. The upper part of the stairway in each buttress, as shown in Fig. 10, is a distinct building with a straight joint between the work of the two periods. The straight joints shown in Fig. 5 are now in some cases gaps 1 in. wide.

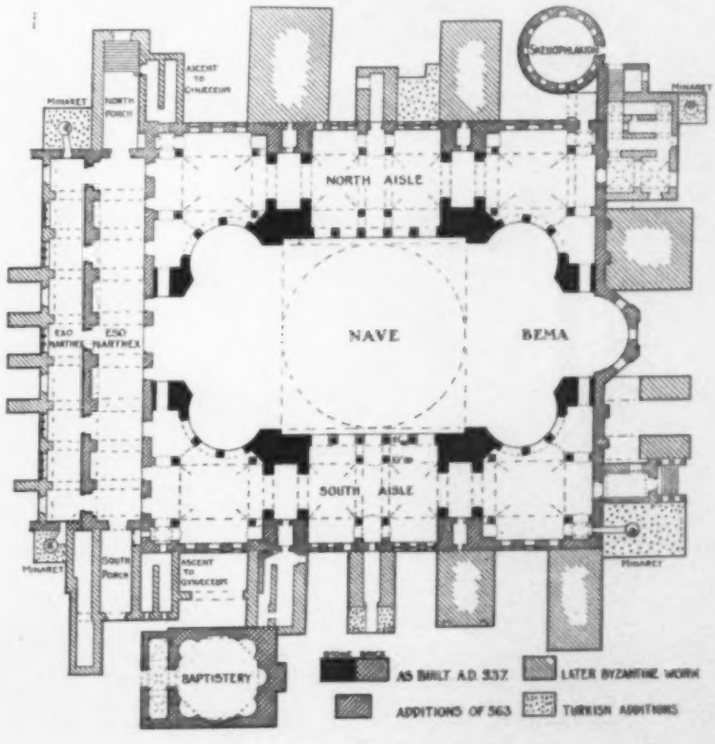


FIG. 1. PLAN OF GROUND FLOOR

SCALE OF FEET

St. Sophia, Constantinople.

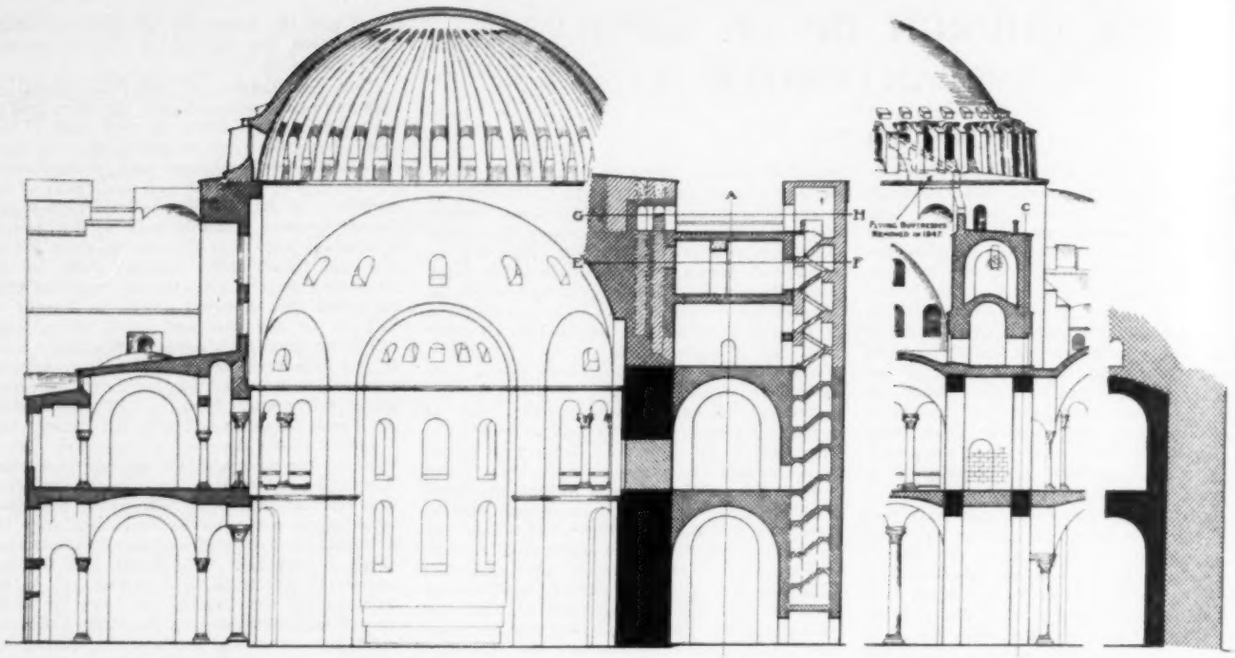


FIG. 9. SECTION THROUGH AISLE AND NAVE AT CENTRE. FIG. 10. SECTION THROUGH BUTTRESS. FIG. 11. SECTION ON A.B. FIG. 12. SECTION ON C.D.

TRANSVERSE SECTION

AS BUILT A.D. 537 ADDITIONS OF 563 LATER BYZANTINE WORK TURKISH ADDITIONS

10 0 10 20 30 40 50 60 70 80 90 100 200

SCALE OF FEET

St. Sophia, Constantinople: The Narthex, looking north.

nineteenth century the building had fallen into a dangerous state of disrepair and in 1847 its restoration was ordered by the Sultan Abdul-Medjid, who commissioned an Italian architect, Chevalier Gaspard Fossati, to superintend the work. Fossati repaired the windows, the roofs, and such of the vaults as had become fractured; reset thirteen columns of the gynæceum which had been thrust out of perpendicular and generally cleaned the building both inside and out. He removed the whitewash from the mosaics, recovering only the figure representations, and covered the outside walls with the present coat of roughcast, marked with red and yellow lines to represent stone jointing. He also removed the four flying buttresses from the dome and in their stead substituted a double iron girdle which he passed round the dome at its base. Of the dynamic principles of construction and the present condition of St. Sophia it is hoped to treat in a following article.

The materials used in the structure are principally stone, brick and marble. Those parts of the main framework on which the greatest pressure is concentrated, the four central piers, the piers under the east and west apses, and the kinetic or active portions of the great buttresses, are built of a compact volcanic stone, dressed, and laid in blocks about 2 ft. 8 in. ong by 1 ft. 4 in. high in mortar joints ¾ in. thick; *vide* plans and sections. A stone course also runs round the walls near the base and stone is used freely in the later additions, some of the buttresses being entirely of ashlar. Otherwise the whole of the walls, the vaults, and the static parts of the great buttresses are of red brick-work: the bricks varying in size from 1 ft. 2 in. square by 2 in. thick to 2 ft. 3 in. by 1 ft. 4 in. by 2 in. thick, and having mortar joints—sometimes of poor quality and mixed with small fragments of broken brick—varying in thickness from ½ in. to 2 in. The columns under the great lateral arches are of verde-antico, those in the exedras—the smaller apses—of porphyry, and the capitals and bases are of white marble. A casing of large marble slabs of various hues and patterns and set in decorated borders covers the internal walls of the body of the church from the pavement to the height of the springing line of the great arches (Fig. 8). These slabs were quarried in various parts of the empire: white marble from the island of Marmora, red from Synnada and Laconia, verde antico from Thessaly, cipollino from Euboea, alabaster from the East and porphyry from Egypt. Some are inlaid with other marbles and all are arranged so that the patterns of those in juxtaposition properly correspond and the various hues and tints so effectively blend that the whole forms one pleasing chromatic design. The vaults above this brilliant wall decoration are covered with a mosaic of figure subjects and crosses set in diaper grounds; gold, silver, and green with red and blue being the principal colours employed. Most of the figure subjects are now obscured under a thin coat of plaster, while much of the mosaic has been lost entirely and the surfaces it occupied are covered with plaster embellished with formal designs in paint; but the great amount which still remains exposed is sufficient to indicate the delicate beauty the whole conception must have possessed. The aisles, the narthex (Fig. 13), and the gynæceum are decorated in the same sumptuous manner, though a considerable portion of Byzantine work in the gynæceum has been lost. Large slabs of white marble varying in size from 10 ft. by 4 ft. to 15 ft. by 4 ft., form the pavements of the nave with its aisles and of the gynæceum gallery. The roofs are covered with lead about ¼ in. thick laid down upon the brick vaults on wood battens.

A description of the striking beauty of St. Sophia will not be attempted here, but some idea of its effect may be gathered from Fig. 8, though of the fine proportions (*cf.* Fig. 7) and brilliant colour the photograph can convey little or no conception, while the general effect is considerably marred by the huge Turkish texts suspended from the second gallery. But it is impossible not to refer to the marvellous and enchanting effect of the lighting. This is obtained through numerous windows so skilfully arranged that, though themselves unobtrusive, they are the means by which the whole building is flooded with a pleasing light, giving full value to the sumptuous yet delicate colouring of the marbles and to the rich gold mosaics on the pendentives and on the great dome above.

EXCAVATIONS IN SOUTH HEREFORDSHIRE.

PRELIMINARY excavations have just been completed in South Herefordshire on the site of a forgotten Roman station called Ariconium, which afford conclusive proof of the fact that this part of the county was, during the Roman occupation of this country, a kind of early Birmingham, says the *Times*. Over a large tract of country more than a hundred acres in extent it is proved that the earth is full of smelting refuse, and there still exist many hazy traditions among the inhabitants of a once thriving iron industry of which the centre was the Roman township of Ariconium. The iron was fetched from the Forest of Dean, near by, and was worked at Ariconium. Until a week ago there was no evidence of this except through local traditions. Ariconium was marked on the map, but little was known about it.

Mr. J. H. Jack, the county surveyor of Hereford, began digging operations, and within four days he had uncovered the foundations of an extensive house, which is conjectured to have been on the outskirts of the manufacturing area. Authorities on the spot are agreed that iron was smelted here extensively, and the ground is still thick with slag. It is not certain in which direction from the habitable part of the settlement the foundries lay, but further explorations are to be made, and there is every prospect that these excavations will eventually reveal an industrial settlement unique in the history of the early years of the Christian era.

Memorial Chapel: Church of the Holy Redeemer, Clerkenwell.
MR. HENRY WILSON, Architect.

FIG. 7.—SHIELD BEARING WATER-BOUGET.

FIG. d.—SHIELD BEARING THREE BUGLE-HORNS.

FIG. 8.—THE BOURCHIER KNOT.

ROOF BOSSES AT THAXTED CHURCH, ESSEX.

By F. SIDNEY EDEN.

Of all architectural details perhaps the most difficult to get a good account of are carved roof bosses. It is hard to bring the camera to bear upon them except under very favourable conditions, and one is reduced, in most cases, to resort to pencil and paper.

The accompanying illustrations are the result of long hours spent in obtaining, with the help of glasses, pencil drawings of the principal bosses in the fifteenth-sixteenth century roofs of the nave, aisles, and tower of Thaxted Church—the most stately ecclesiastical building of fourteenth and fifteenth century date in Essex, and one which is especially rich in carvings of detail, both stone and wood. The roofs of the nave and aisles are flat, with moulded main beams and carved wood bosses at the crossings.

The nave roof is of the early part of the sixteenth century, and, at the central intersections, counting from the west, are bosses bearing carved designs as follows:—

a. The sun in splendour.
b. A double rose.
c. A shield with a mullet thereon, probably a badge of de Vere.
d. A shield bearing three bugle-horns stringed, the arms of Corney, a coat quartered by the Cuttes of Horham Hall, Thaxted. This coat is quartered with the arms of Cutte on the monument (1592) of Richard Cutte in Arkesden Church, Essex, and appears, in the same connection, in glass at Horham Hall.
e. A shield, the arms upon which are almost indecipherable from whitewash. The coat appears to be a rampant lion between two arrows, perhaps for Cantalon.
f. A jack or arblast winder—one of the many badges of de Vere. It is carved in stone on the tower of Castle Hedingham Church, Essex, and, in Springfield Church, near Chelmsford, it may be seen on a quarry in painted glass.

FIG. f.—WINDLASS FOR BENDING CROSS-BOW (A DE VERE BADGE) IN PAINTED GLASS AT SPRINGFIELD CHURCH, ESSEX.

g. A pomegranate, for Katherine of Aragon.
h. A feather, on a panel set in leafage.
i. A rose within leaves.
j. A double rose.
k. Four leaves, with stalks entwined.
l. A shield bearing four mullets (two and two), probably for Elyot.
m. A rose.

The roof of the south aisle is of the same period as that of the nave, and shows, beginning at the east end, the following designs on its bosses. Unlike the nave roof, which has only one line of carved bosses—in the centre—the roof of this aisle has three lines. In describing them, I begin to count from the first on the north side to the third on the south side, and so on throughout.

1, 2, 3, 4, and 6. Conventional leafage.
5. A double rose.
7. A shield bearing a water-bouget, perhaps a badge of Bourchier.
8. A Bourchier knot.
9. The same as seven.
10. A pomegranate and grapes.
11. A portcullis.
12. A feather.
13. A rose.
14. A fetterlock, closed.
15. A fleur-de-lis.
16. A pomegranate and a rose, dimidiated, a badge of Queen Mary Tudor, perhaps a later addition.
17. The same as 15.
18. Conventional leafage.
19. A shield of Corney, as in the nave roof.
20 and 21. The same as 18.
22. A shield bearing three shovels, one in pale and two in saltire, bound with a cord.
23. Entwined leafage.
24. A four-leaved flower.
25. A shield bearing on a chevron between three estoiles as many roundels, for Wastoile of Twinstead, Essex.

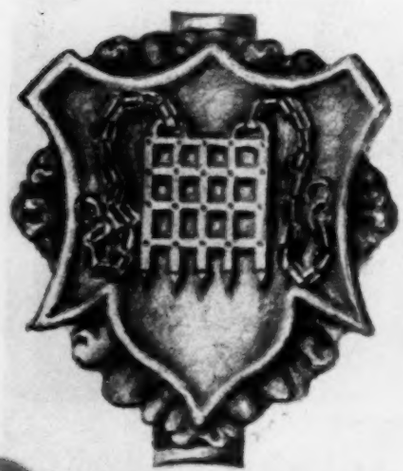


FIG. 11.—A PORTCULLIS.

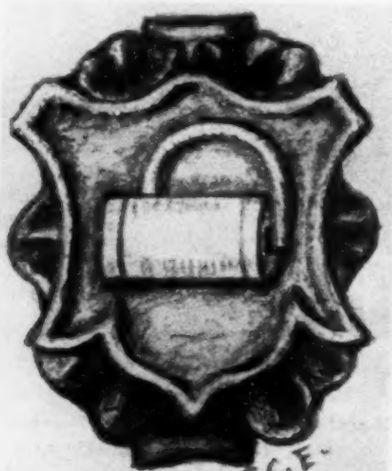


FIG. 14.—FETTERLOCK.

FIG. g.—j POMEGRANATE.

Fig. 25.—Shield with Chevrons and Estoiles.

26. The same as 24.
27. Conventional leafage.
28. A shield bearing three trefoils slipped, for Champion.
29. Conventional leafage.
30. On a shield the initials $\frac{A}{F\ B}$.
31. Conventional leafage.
32. On a shield the initials T and C, connected by a cord.
33 to 38. Conventional leafage.

The roof of the north aisle is of earlier date than those of the nave and south aisle, being late fifteenth century, but the boss carvings lack variety. They are all angels' heads or leafage, with one exception—a shield bearing a wool-comb in bend between two shuttles.

The carved stone bosses at the intersections of the ribs of the tower vaulting are of interest. They comprise :—

A. Nimbed cross with our Lady and St. John.
B. A rose set in smaller roses.
C. Leafage.
D. A shield bearing the arms of Mortimer, set in leafage.
E. "A" rose.
F. Shield with the instruments of the Passion.
G. A shield bearing an eagle displayed.
H. A shield bearing a cross, for de Burgh.
I. A pelican in her piety.

In the centre of the vault is a bell passage.

J. Lying loose on the floor at the west end of the church are some fragments of stone carving, among them, two corbels with female heads (fourteenth century) and a roof boss representing a monkey and an animal with dog's head and scaly body entwined (fifteenth century). This boss may, perhaps, have belonged to the roof of the north porch, which is mainly modern, the old vaulting having been demolished in 1814.

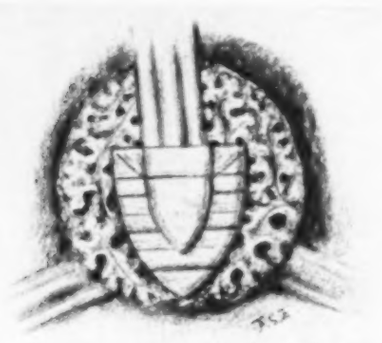


Fig. *D.*—Shield with the Arms of Mortimer.

Fig. 30.—Shield with Initials.

The eastern bay of the roof of the chapel of the Blessed Sacrament on the south side of the chancel is of early sixteenth century date and is panelled and painted in tempera colour. The panels—sixteen in number—are divided by ribs and are decorated with monograms, in reddish brown on a white ground—I H S for our Lord and M for our Lady and the Chalice Host, all rayed. Eight of the panels bear the Chalice and Host, four have our Lord's monogram and four our Lady's. The ceiling is divided in the centre by a heavy moulded beam running east and west, terminated, at the east-end, by a boss with a carved and painted dove, rayed, set in a border of crosses patée; and, at the west end, by a boss bearing the Chalice and Host, also carved and painted. At the intersections of the ribs are carved bosses with a four-leaved flower with trefoils in its angles. The ribs and bosses are painted white and edged with deep reddish brown.

Fig. *J.*—Monkey and Animal Entwined.

Fig. *H.*—Shield with Cross for de Burgh.

Fig. *G.*—Shield with Eagle.

Fig. *A.*—Cross with Our Lady and St. John.

Fig. *F.*—Shield with Instruments of the Passion.

Fig. 28.—Shield with Trefoils Slipped.

Fig. 32.—Initials on Shield.

Fig. *I.*—A Pelican in Her Piety.

Abo Cathedral.

MEDIÆVAL CHURCH ARCHITECTURE IN FINLAND.

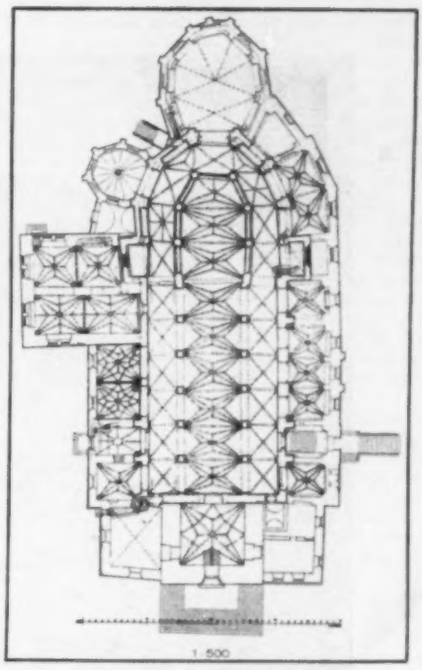
By CAROLUS LINDBERG.

The situation of Finland high up in the north, far from those more happily-placed lands where civilisation flowered most brightly, has not been without influence on its arts. Most apparent were the results of this influence in times when the undeveloped means of communication made all roads long, hindered contact between peoples and consequently impeded the exchange of intellectual values. Factors of this nature are clearly at work in the field to be discussed here: the mediæval church architecture of Finland.

The great changes in style in Southern and Central Europe reached this northern spot only as faint echoes. The intensity of the various architectural styles had weakened on the way and their forms, borne here often with the aid of memory alone, became altered. The architectural splendour of the epochs of luxuriant style changes here to a simple, at times even impoverished, form-language. This need not, however, give rise to the impression that the products of mediæval church-building in Finland were only simplified reproductions of the architectural treasures of other lands. Our mediæval religious art speaks, in a tongue of its own, of the building activity and the means of artistic expression of the nation. It tells of a struggle, and no easy one, fought here also for the subjugation of material to the will of the builder, and it shows the manner in which victory was won. A peculiar beauty, mirroring the character of our nation, dwells in the simplicity, the dignity and severity of our churches.

The factor contributing most to this result has been the building-material used. The crystal-hard natural stone appearing in great profusion in this country (granite and gneiss) has forced building forms into conformity with its nature. An almost complete lack of any but the simplest architectural forms; no other sub-division than that demanded naturally by the construction; brick in the parts where the manner of building or the desire to decorate called for a more plastic material—these are some of the chief characteristics of mediæval church architecture in Finland.

In all times, our people have necessarily lacked an overflow of the good things of this world. Especially in a comparison with the architectural treasures of more favoured lands does the fact appear that here in Finland we have been obliged to content ourselves with simplified types of churches, with few materials—and these few not the more precious ones—and a sparing use of ornament in building. The simplification thus enforced, due also to an undeveloped state of culture and the demands made by a hard climate, has not, however, been able to fetter the hands of our architects. Rather, it appears to have been an extrinsic factor of secondary importance in what seems primarily to have been a conscious striving after unaffected dignity. This striving has attained its own expression in our mediæval churches and appears here, as elsewhere, a direct outcome of the austere temperament of our people.



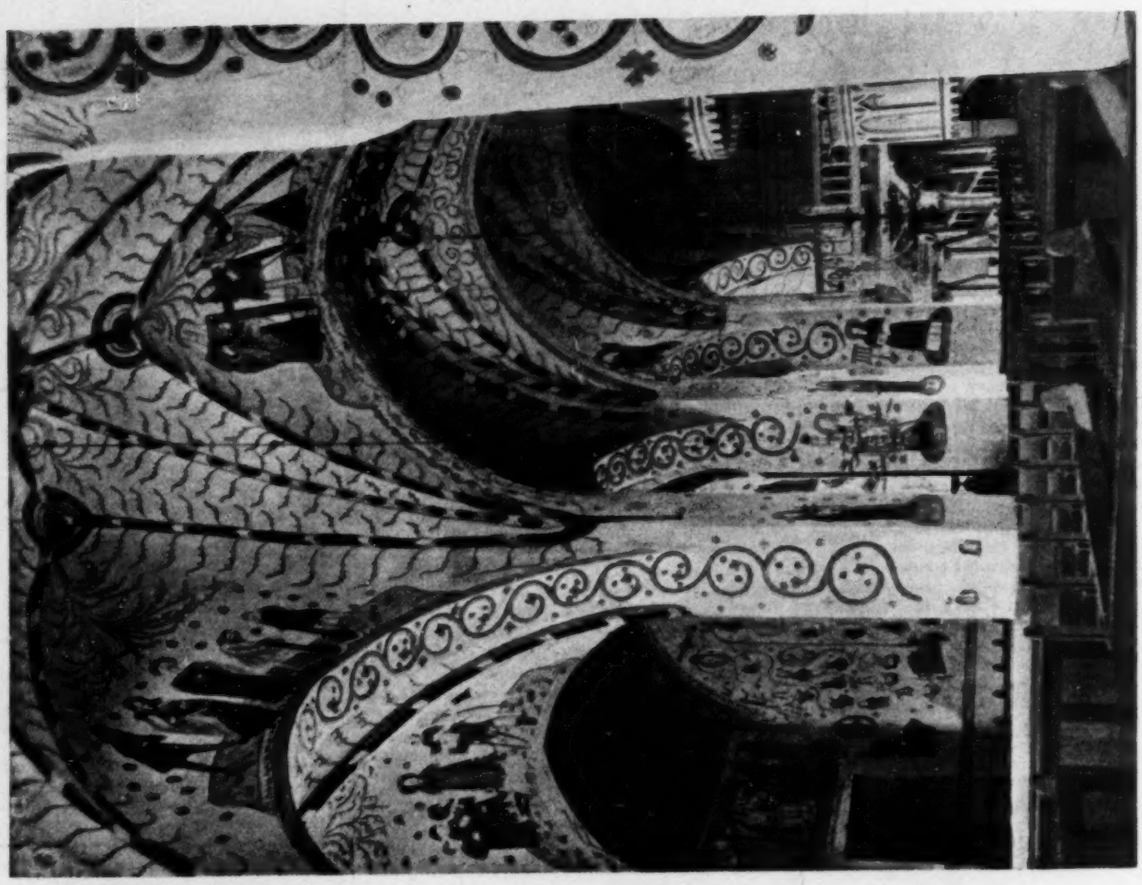
Plan of Abo Cathedral.

The Cathedral, Abo.

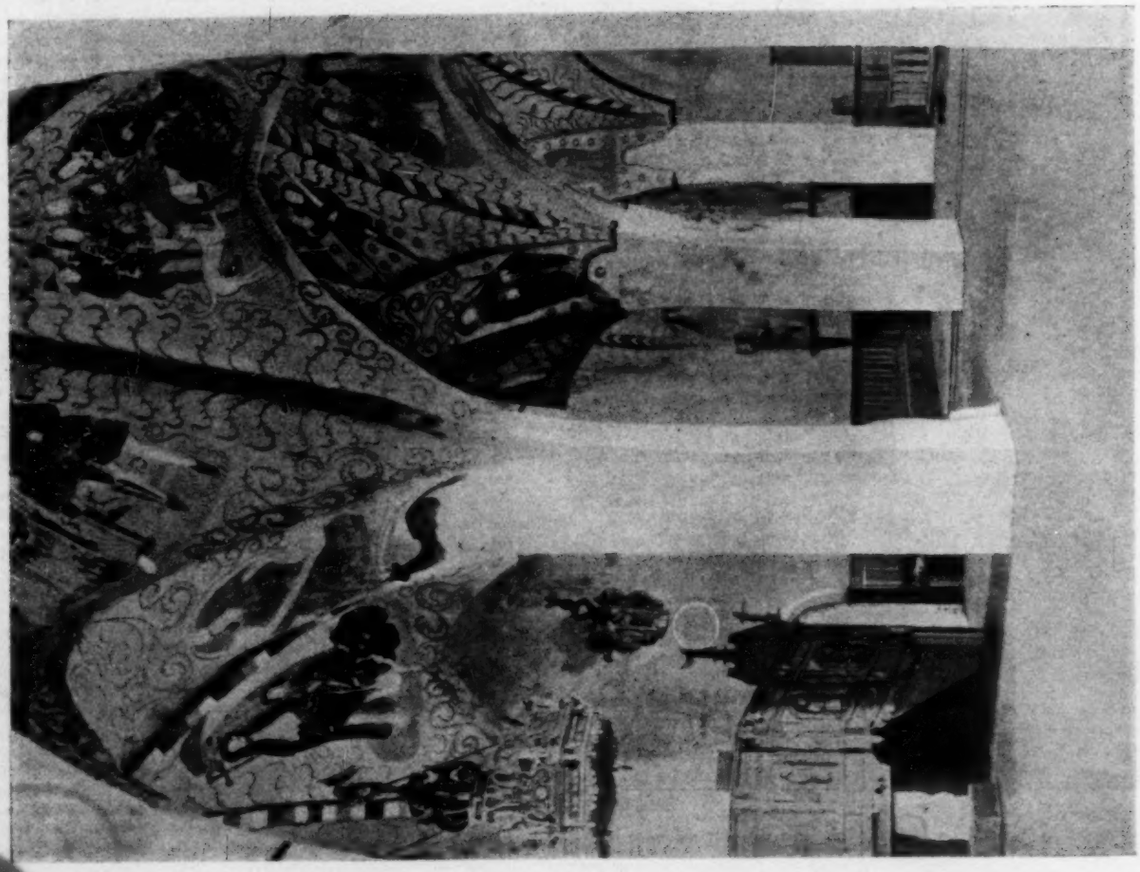
Finland is connected geographically with the East European mainland, and is divided from Western Europe by the Baltic Sea and its gulfs. The sea has, however, here, as usual, joined more than it has separated. Over the water to the west our countrymen came into contact with a Christian civilisation, and from the same direction came later the first impulse to its spiritual development and its art. Byzantine architecture, with its powerful feeling for style, with which the Finlanders both in war and on other more peaceful paths came into touch in the east, has on the other hand, to judge from visible results, exercised no influence in this country. It is in western civilisation and in western art that we have to seek, from the first dawn of the mediæval age, for the foundations of our own civilisation and our own art. And here, by the way, we are moved to point out how in this connection also Finland formed, and still forms, the last outpost eastwards of western ideals.

Later than their neighbours, the heathen Finns turned from their old idols. The Christian belief, established before the close of the tenth century in Scandinavia, first sought its way over to Finland, according to the testimony of ancient documents, towards the middle of the twelfth century. But even this first mission, led by Saint Eric, King of Sweden, and the British missionary Henrik, raised later to be patron saint of Finland, could not procure a safe foothold in the land for the new religion, and not until a century later, after a new crusade under Birger Jarl (1249) to the inner provinces, was the foundation laid of a firm Christian organisation of which the church is the visible symbol.

The Christian Faith was thus brought into the country by crusaders from the west. Together with the Faith came the necessity for buildings in which to proclaim it. It would seem thus only natural that those who brought over the Faith to our communities should also bring over knowledge of the church types of their own country, and that the latter should become the first models for the church architecture, which, from then onwards, began to develop in the land. During this first period, however, probably in analogy with circumstances in our neighbouring land, the material nearest to hand and easiest to work—wood—was used. It was essential for the victors, in a land conquered by the sword, quickly to



LOHJA CHURCH, SHOWING PAINTED VAULTING.



INTERIOR OF HATTULA CHURCH.

Mediæval Church Architecture in Finland.

consolidate their position by the erection, not only of castles, but of temples to God, in which by wax-candles and masses the wounds caused by the use of force could be healed. A proof of the correctness of this assumption is to be found, besides, in tradition and old-folk tales, in the fact that many of the mediæval

Knocker at Abo Cathedral.

churches of stone in our country are of fairly late date, the majority being erected during a time long after the first proclamation of Christianity in the land.

Whether these first wooden churches were of a somewhat temporary character or were built with greater care, the destructibility of wooden constructions soon became apparent, creating a demand for a more durable substance—the granite—which, even though difficult to work, was yet easily obtainable, especially from our moraine-formations. The transition to stone was made easier by the fact that at the time when the first stone church was erected in Finland, the stonemason's art had already created a tradition in the land from which the nearest impulses came and church-architecture had modelled its form-language in this hard material. The wish of the clergy to give expression to the power of the Church in indestructible works doubtlessly also hastened on the transition.

In any case, the oldest wood architecture has not been preserved and thus our knowledge of the church architecture of the Middle Ages begins first with the stone church.

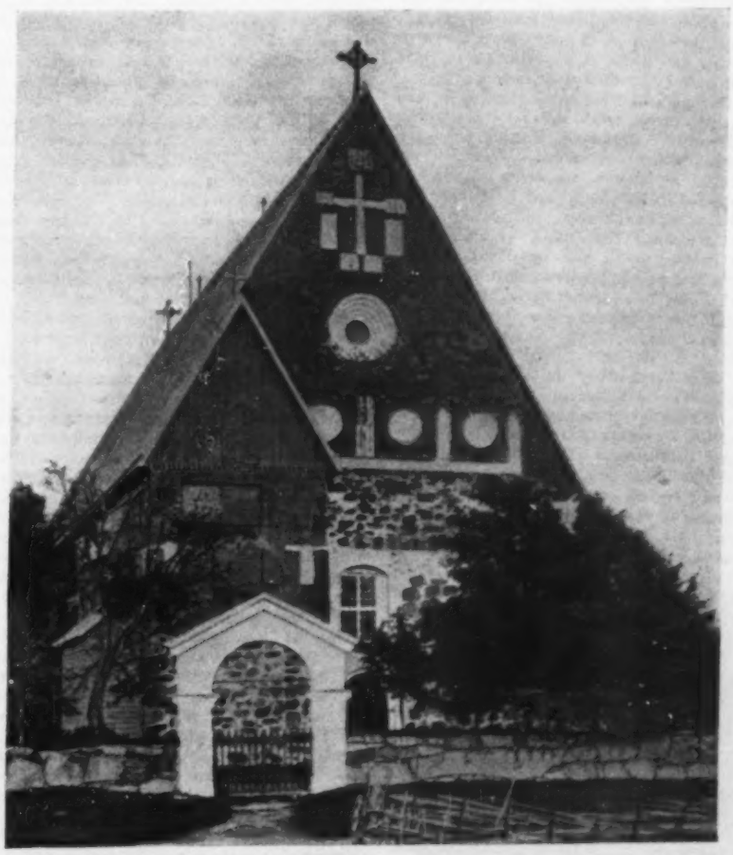
The mediæval stone churches in the land show common characteristics in both plan and construction. The main cause of this is to be sought in the circumstance that the churches were erected during a comparatively short and intensive period of building, too short for style to have changed during its course, or for development to have brought about new directions deviating appreciably from one another. Influences from outside were also chiefly borne along the same few channels, so that a confusion of style or an acceptance of too many varying ideals has not occurred. Finally, the great epoch-making change in style from the Romanesque to the Gothic, although visible also in our architecture, did not occasion radical changes in the general aspect of the churches, neither did it lead their builders to attempt the solving of all the problems of form and technique, such as followed the Gothic style in other lands. A firm hold on the customs handed down to them is even to-day one of the most marked features of the character of the northern peoples.

In planning, many of the oldest of the Finnish stone churches preserved to our time represent that late stage of development of the western church when the choir, formerly a separate part of the building, began to be merged into the body of the church. Only in one case, that of Hammarland church in Aland, do we find a projecting choir built contemporaneously, or nearly so, with the main body of the church. A western tower would, on the other hand, seem to have formed a part of the plans of these Aland churches, although only at Eckerö is the tower with certainty connected in construction with the walls of the nave. The choir of Finström church shows the further development of church-planning. Here the choir is of equal breadth with the main body and is contained under the same roof. This apparent merging is broken, however, in the interior of the church by strong pilasters springing from the walls, which bear up a low triumphal arch and divide the main body from the choir. The type dates from the thirteenth century. Moving farther east, nearer to the mainland and on it, we can observe how already in the oldest of the churches here, the main body and the choir have merged into a complete rectangle, unbroken either in the interior or without. The western tower found in the Aland churches, and others related to these, disappears. Two annexes are added to the church, viz, a porch for the disposal of the arms of the worshippers —hence its name "armoury"—on the south side, and on the north near the eastern gable, a sacristy. The church-bells were placed in a belfry standing independent of the church and erected probably of wood. A reason for such an assumption is that the belfries now in use are erected in this manner, although with certain exceptions they were built later.

This rectangular type of church persists right through the Middle Ages. The preference for the same is so deeply rooted that even when, in the second half of the fourteenth century, Gothic influence, forcing its way slowly towards the north, gives rise to the polygonal choir, this latter is carried out only in odd cases, such as in the Abo Cathedral and the church at Nousiainen, while contemporaneously and even much later new churches are erected according to the old rectangular pattern. As a rule, these later buildings differ from the earlier single or two-naved churches only by their greater dimensions and their division into three naves.

Though this adhesion to the simplest possible plan be comprehensible in the case of ordinary churches in the countryside it seems remarkable that the town churches, such as the cathedrals erected in the fifteenth century in Borga and Wiborg, have not been given more luxurious plans and construction. The towns at least stood in closer connection with the changes in architectural style and went even so far, as can be stated positively regarding Borga, as to call in a foreign master-builder for their church. That a striving did actually exist towards the large and opulent style of church art, the cathedral style, is proved by our finest town church and greatest mediæval monument —the cathedral at Abo—even though the impulse found its sole expression here, in the bishop's seat. The architecture represented by this church at Abo will be dealt with later.

The construction of the stone churches follows the demands of the scheme of planning. The rectangular main body shows a building with high gables in the west and east, which are given a steep saddle-roof as covering. The silhouette of this mediæval church becomes the simplest possible, and only in the older West-Finnish churches fitted with towers, does it show a rise in height towards the west. The lower additional buildings—the sacristy in the eastern part of the long north wall and the "armoury" on the opposite side, near the western gable—give the towerless church, in which these side-buildings are often organic parts of the main building, a more enlivened exterior and serve to show off the mighty proportions of the whole. Through the armoury or a door in the western gable-end, entrance is effected to the main body, from which again an unimposing door leads to the sacristy. The exterior surfaces of the walls are broken, as a rule, only by openings to admit light, these niches, whose copings slope from both sides towards the centre of the wall, having formerly framed a glazing composed of small leaded panes. Such windows are found in the gable



Church at St. Marie.

Parish Church at Ulvila, with detached Belfry.

facades and on the southern main wall; in churches of later date an original window appears also in the northern main wall.

Generally these apertures for light are single. A group of older churches in South-West Finland, among which constructions consisting originally of two naves, or with a barrel-vault of timber are to be found, shows a grouping of windows in pairs. To this type belong the churches at Vemo, Taivassalo and Mynämäki, and also the cathedral at Abo by virtue of the double windows in the western façade of the tower. However unpretentious this arrangement of window may be, it still gives expression to a desire to attain a rhythmic regularity in the erection, and hints at an attempt at style worthy of note in our mediæval church architecture. The merit of this arrangement lies in the striving to create an architecture depending less on decorative detail than on an effective use of the necessary elements of building. This Finnish window-architecture, the origin of which can be traced backward to earlier attempts of western church architecture, and whose relationship to many architectural creations in the north can be demonstrated, is further a new proof that our architecture does not stand alone, but forms instead an integral part, though the outermost, of western architecture seen as a whole.

Freestone bonds were used regularly in churches of natural stone in the Romanesque style. This was easily accomplished in districts possessing an easily-worked type of stone. The hewing of hard granite into symmetrical quadrants was a harder task. By a tenacious clinging to tradition, however, walls have been built of hewn squares of granite, especially during the Romanesque epoch, even in many places in the north. Or, as is the case with us, the formation of horizontal bonds has been attempted with unworked blocks of stone by choosing equal-sized stones for each successive layer, or by varying with stones of unequal size in each alternate layer. By the use of picked or worked blocks, regular quadratic corners have also been created in some churches.

The effect achieved by a plinth or by details rounding off the whole, brought about easily enough in buildings of quadratic stone, is more difficult of accomplishment where the walls are erected of boulders piled up on one another. The simple socle stretching outward from the wall-surface found at Hammarland and Sund, or the larger, specially-shaped corner-stones at Lempäälä, Hollola, Vanaja, Hauho, and Lammi are the only attempts at the construction of a distinctive base in the exteriors of our mediæval churches. Cornices are lacking altogether and are hardly compensated for by the short friezes in brick, which appear in some of the works of the fifteenth century: Tenala, Lempäälä and Rauma. The eaves, jutting far out over the walls, would also have covered a cornice, had any such thing been attempted.

Although but an unpretentious outcome of the desire of the builders for artistic creation, these short friezes bring to light a circumstance of weight, viz., that brick, having first, as an importation from abroad, conquered for itself a firm position among the building materials used here, has been given the duty of forming those parts of an erection for which granite could not be worked into appropriate shapes. In the minor details of a façade, such as the embrasures of doors and windows, where these appear in their simplest form without any ornamentation, mullioning or tracery, brick is entrusted with a vital part of the construction. By this means a simple and architecturally effective form is achieved. The use of brick is, however, not confined to an unpretentious position in the embrasures of the doors and windows of a church; it strives towards a complete revolution in both the formal and constructive elements of building.

The barren, Romanesque granite-style of the thirteenth century, the representatives of which are to be found in the Aland-Abo archipelago, shows only a few simple architecturally ornamentative forms in church exteriors, among which the earlier-mentioned method of creating a regular bond or simple sculpture are the most noticeable. The style lives on in churches erected during the same period, or a little later, in the parts of the mainland farthest south-west. But as early as the second half of the fourteenth century a change can be marked. A demand for a richer form-language in the exterior of the churches makes itself felt, and, following the best patterns, the gables of the main body and the annexes are chosen by the builder's taste as the best field for ornamentation. Brick renders its accomplishment possible.

The manner of gable-ornamentation, inspired by examples from brick-architecture, consists in embellishing, line, shade, and colour-effects by the use of shallow recesses marked out in brick, the colour-effect being further increased by an ornamental or figure-painting at the back of the recess (Hattula, Pälkäne and Pyttis churches). The first recess-compositions show, as a rule, a cross flanked by special round or window-like recesses. Soon, however, this simple composition gives way to richer groupings in which either the cross is retained as the central figure in an ornament consisting of all manner of recess-forms, or the wall-surface is modelled only by the use of other, differently-formed recesses. Brick, which earlier formed only either a frame or the bottom of the recesses in the granite walls, now takes up the whole of that part of the gable where ornament occurs. Thus, the builder is given the opportunity of making use of the other methods of decorating an exterior possible to brick architecture, such as sparsely-placed lines of vertically-placed bricks, toothing, brick-patterning, &c. The churches of the fifteenth century are specially noticeable for their wealth of forms in this respect.

In any systematisation of the mediæval churches of Finland the brick ornamentation of the gables plays a decisive part, as in it we find, in spite of the otherwise approximate similarity of planning and construction, the specific form-language of the monument. More than any other part of the buildings, the form-world of the gables mirrors the influences assimilated by the country, accentuates the relationship between the individual churches or groups of churches here, determines the architectural niveau of the buildings and finally assures them a place in the history of architecture.

The appearance and placing of the gable-ornament show thus the existence of separate groups of churches, which, according to the bounds within which they are found, may be called district-types. As pointed out earlier, an unpretentious gable-treatment is characteristic of the churches in Finland Proper, i.e., the south-west corner of Finland, many of the older buildings, e.g., those at Uusikirkko, Mynämäki, Vehmaa, Raisio and Kaarina, and also some from the fifteenth century, St. Bertils (Pertteli) and Halikko showing a total lack of ornamentation in their gables. Further, the gable-ornamentation of the churches, imposing both in bulk and interior construction, at Pargas, Sauvo, and Kimito, is modest; as is the case with another, related only geographically to those of Nyland, at Tenala. The remaining churches in the district, where these are not continuations of neighbouring district-styles, show also simply-decorated gables, in which the cross forms the central figure: Lieto, Lemu, Rusko, and Taivassalo. The church at St. Marie, with its high and originally-ornamented gables, stands alone within the group.

[This article and the accompanying illustrations are reprinted, by arrangement, from "Religious Art in Finland During the Middle Ages."]

[To be concluded.]

CHURCH DESIGN IN HOT CLIMATES.

Convenience and convention find themselves in opposition far too often in architectural matters, and their conflict is seldom more violent than in the churches built by Englishmen in hot climates. Apart from the tin tabernacle which, though it may be regarded as beneath serious discussion as architecture, is still an eyesore, the church designs made in England for export during the last half-century were often totally unsuited to the conditions in which they would be built. The sham Gothic which was being exposed for what it was worth by Ruskin in his "Stones of Venice," was accepted as the right thing for English church buildings, not only at home, where it might be sometimes subdued and lost in the fog, but for countries whose natural deficiency of fog would otherwise be considered a blessing. The argument for this state of things (in many cases openly avowed) was that the Gothic style was a purely Christian expression of architectural art and might be regarded as symbolical of the pure religion as understood in England. Without questioning the appropriateness of the symbolism or reviving the old controversy of Christian *versus* Pagan architecture for churches, it is permissible to point out that the resulting architecture both at home and abroad suffered from the unreality which is bound to follow where forms, meaningless constructionally, are stereotyped as the embodiment of ideas for which they were not originally designed to stand.

The whole outlook of the Gothic craftsman upon constructive science differed from that of the present day; his expedients included buttresses and pinnacles for certain structural and ornamental purposes which have been superseded by our development of materials capable of resisting tension, as well as compression. But by the Gothic revivalists these details of mediæval structure were revered far more fervently than by the people who actually introduced them into buildings for the prevention of structural defects. "The (modern English) architects evidently consider buttresses as convenient breaks of blank surface, and general apologies for deadness of wall," wrote Ruskin. "They stand in the place of ideas, and I think, are supposed also to have something of the odour of sanctity about them; otherwise one hardly sees why a warehouse seventy feet high should have nothing of the kind, and a chapel, which one can just get into with one's hat off, should have a bunch of them at every corner; and worse than this, they are even thought ornamental when they can be of no possible use; and these stupid penthouse outlines are forced upon the eye in every species of decoration; in some of our modern chapels I have actually seen a couple of buttresses at the end of every pew." Ruskin wrote from the standpoint of a man already familiar with Byzantine forms of art and with the knowledge of their effect in a light-saturated landscape, where the more wire-drawn forms of revivalist Gothic tend to become trivial and to look even more meanly pretentious than they do at home. His words, however, were thrown away on people who knew no other climate than their own and regarded their own methods as the only ones which could by any possibility be right. The symbolic theory of Gothic architecture (especially buttresses) is by no means dead even now, and in deference to it many a backwoods township sacrifices the old verandahed barn that has served as church conveniently long enough in order to offend its blue skies with some example of sham mediæval art, complete with every conceivable disharmony of shape and colour, and which ensures in addition the maximum of discomfort combined with the most blatant forms of architectural hypocrisy.

Design for a Church, South of the Equator.

That all parties responsible for this disaster have acted for the best in perfect good faith is one of its saddest aspects to anyone interested in present-day architecture and its possibilities. The community is provided with a "proper" church in very much the same fashion that Bishop Peter of Rum-ti-foo, in W. S. Gilbert's delightful verses, clothed his flock of "well-conducted persons" in his eminently respectable cast-off clothes—"His three-and-twenty suits they found in fair condition still." There seems to be no immediate prospect of delivery from this state of things. Genuine mediæval art is beautiful and interesting enough to excuse any amount of misdirected enthusiasm and the cure of one architectural excess all too often involves remedies that are worse than the disease. There would be but small advantage in replacing mediæval detail by antique, buttresses by pilasters, and so forth, and once again setting the classic purity of the Greek against the Christian symbolism of the Gothic style.

Some of the more recent specimens of modern Gothic are not quite so impossible as many that were erected in the early days of the revival, and the defects of church building in hot climates are but an acute symptom of a disease affecting a great deal of modern architecture. This is a tendency to give to archæological details attention that should be bestowed on the broader aspects of convenience of plan and general suitability in the form and colour of the building in respect to the place in which it is being built. The desire to give something symbolic of what is best in our civilisation to the aboriginal or the backwoodsman is an excellent one to mingle in a church design; but it should be possible to give expression to it in finer ways than by the incorporation of certain inappropriate details, whatsoever their source of origin.

Few architects can afford to spend the time to invent new forms of building appropriate to the climate of any place in which it may be proposed to erect a mission church, but it should be possible to obtain information by means of photographs and sketches which will show the kind of surroundings in which the building will be placed. No artist is blind to the importance of choosing a frame to suit, as well as to fit, his picture, and though with architects it is the frame which exists they should be able to grasp the advantage of designing their new building in harmony with its background.

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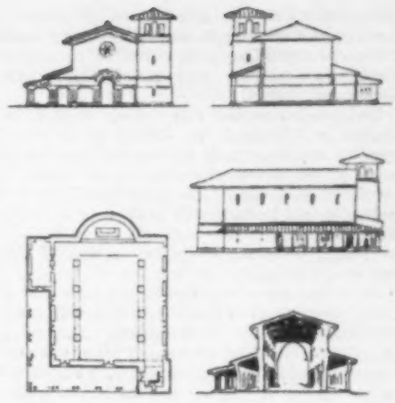

DESIGN FOR A CHURCH

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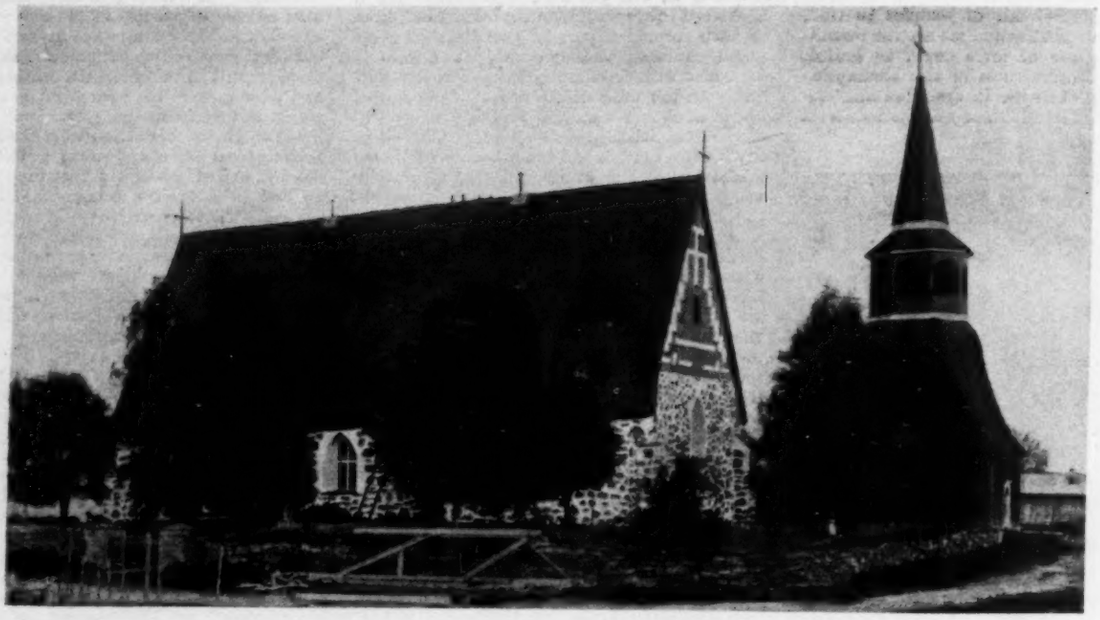


Parish Church at Ulvila, with detached Belfry.

facades and on the southern main wall; in churches of later date an original window appears also in the northern main wall.

Generally these apertures for light are single. A group of older churches in South-West Finland, among which constructions consisting originally of two naves, or with a barrel-vault of timber are to be found, shows a grouping of windows in pairs. To this type belong the churches at Vemo, Taivassalo and Mynämäki, and also the cathedral at Abo by virtue of the double windows in the western façade of the tower. However unpretentious this arrangement of window may be, it still gives expression to a desire to attain a rhythmic regularity in the erection, and hints at an attempt at style worthy of note in our mediæval church architecture. The merit of this arrangement lies in the striving to create an architecture depending less on decorative detail than on an effective use of the necessary elements of building. This Finnish window-architecture, the origin of which can be traced backward to earlier attempts of western church architecture, and whose relationship to many architectural creations in the north can be demonstrated, is further a new proof that our architecture does not stand alone, but forms instead an integral part, though the outermost, of western architecture seen as a whole.

Freestone bonds were used regularly in churches of natural stone in the Romanesque style. This was easily accomplished in districts possessing an easily-worked type of stone. The hewing of hard granite into symmetrical quadrants was a harder task. By a tenacious clinging to tradition, however, walls have been built of hewn squares of granite, especially during the Romanesque epoch, even in many places in the north. Or, as is the case with us, the formation of horizontal bonds has been attempted with unworked blocks of stone by choosing equal-sized stones for each successive layer, or by varying with stones of unequal size in each alternate layer. By the use of picked or worked blocks, regular quadratic corners have also been created in some churches.

The effect achieved by a plinth or by details rounding off the whole, brought about easily enough in buildings of quadratic stone, is more difficult of accomplishment where the walls are erected of boulders piled up on one another. The simple socle stretching outward from the wall-surface found at Hammarland and Sund, or the larger, specially-shaped corner-stones at Lemp lä, Hollola, Vanaja, Hauho, and Lammi are the only attempts at the construction of a distinctive base in the exteriors of our mediæval churches. Cornices are lacking altogether and are hardly compensated for by the short friezes in brick, which appear in some of the works of the fifteenth century: Tenala, Lempäälä and Rauma. The eaves, jutting far out over the walls, would also have covered a cornice, had any such thing been attempted.

Although but an unpretentious outcome of the desire of the builders for artistic creation, these short friezes bring to light a circumstance of weight, viz., that brick, having first, as an importation from abroad, conquered for itself a firm position among the building materials used here, has been given the duty of forming those parts of an erection for which granite could not be worked into appropriate shapes. In the minor details of a façade, such as the embrasures of doors and windows, where these appear in their simplest form without any ornamentation, mullioning or tracery, brick is entrusted with a vital part of the construction. By this means a simple and architecturally effective form is achieved. The use of brick is, however, not confined to an unpretentious position in the embrasures of the doors and windows of a church; it strives towards a complete revolution in both the formal and constructive elements of building.

The barren, Romanesque granite-style of the thirteenth century, the representatives of which are to be found in the Aland-Abo archipelago, shows only a few simple architecturally ornamentative forms in church exteriors, among which the earlier-mentioned method of creating a regular bond or simple sculpture are the most noticeable. The style lives on in churches erected during the same period, or a little later, in the parts of the mainland farthest south-west. But as early as the second half of the fourteenth century a change can be marked. A demand for a richer form-language in the exterior of the churches makes itself felt, and, following the best patterns, the gables of the main body and the annexes are chosen by the builder's taste as the best field for ornamentation. Brick renders its accomplishment possible.

The manner of gable-ornamentation, inspired by examples from brick-architecture, consists in embellishing, line, shade, and colour-effects by the use of shallow recesses marked out in brick, the colour-effect being further increased by an ornamental or figure-painting at the back of the recess (Hattula, Pälkäne and Pyttis churches). The first recess-compositions show, as a rule, a cross flanked by special round or window-like recesses. Soon, however, this simple composition gives way to richer groupings in which either the cross is retained as the central figure in an ornament consisting of all manner of recess-forms, or the wall-surface is modelled only by the use of other, differently-formed recesses. Brick, which earlier formed only either a frame or the bottom of the recesses in the granite walls, now takes up the whole of that part of the gable where ornament occurs. Thus, the builder is given the opportunity of making use of the other methods of decorating an exterior possible to brick architecture, such as sparsely-placed lines of vertically-placed bricks, toothing, brick-patterning, &c. The churches of the fifteenth century are specially noticeable for their wealth of forms in this respect.

In any systematisation of the mediæval churches of Finland the brick ornamentation of the gables plays a decisive part, as in it we find, in spite of the otherwise approximate similarity of planning and construction, the specific form-language of the monument. More than any other part of the buildings, the form-world of the gables mirrors the influences assimilated by the country, accentuates the relationship between the individual churches or groups of churches here, determines the architectural niveau of the buildings and finally assures them a place in the history of architecture.

The appearance and placing of the gable-ornament show thus the existence of separate groups of churches, which, according to the bounds within which they are found, may be called district-types. As pointed out earlier, an unpretentious gable-treatment is characteristic of the churches in Finland Proper, i.e., the south-west corner of Finland, many of the older buildings, e.g, those at Uusikirkko, Mynämäki, Vehmaa, Raisio and Kaarina, and also some from the fifteenth century, St. Bertils (Pertteli) and Halikko showing a total lack of ornamentation in their gables. Further, the gable-ornamentation of the churches, imposing both in bulk and interior construction, at Pargas, Sauvo, and Kimito, is modest; as is the case with another, related only geographically to those of Nyland, at Tenala. The remaining churches in the district, where these are not continuations of neighbouring district-styles, show also simply-decorated gables, in which the cross forms the central figure: Lieto, Lemu, Rusko, and Taivassalo. The church at St. Marie, with its high and originally-ornamented gables, stands alone within the group.

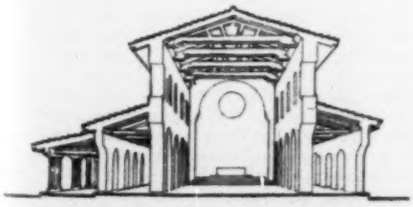
[This article and the accompanying illustrations are reprinted, by arrangement, from "Religious Art in Finland During the Middle Ages."]

[To be concluded.]

CHURCH DESIGN IN HOT CLIMATES.

Convenience and convention find themselves in opposition far too often in architectural matters, and their conflict is seldom more violent than in the churches built by Englishmen in hot climates. Apart from the tin tabernacle which, though it may be regarded as beneath serious discussion as architecture, is still an eyesore, the church designs made in England for export during the last half-century were often totally unsuited to the conditions in which they would be built. The sham Gothic which was being exposed for what it was worth by Ruskin in his "Stones of Venice," was accepted as the right thing for English church buildings, not only at home, where it might be sometimes subdued and lost in the fog, but for countries whose natural deficiency of fog would otherwise be considered a blessing. The argument for this state of things (in many cases openly avowed) was that the Gothic style was a purely Christian expression of architectural art and might be regarded as symbolical of the pure religion as understood in England. Without questioning the appropriateness of the symbolism or reviving the old controversy of Christian *versus* Pagan architecture for churches, it is permissible to point out that the resulting architecture both at home and abroad suffered from the unreality which is bound to follow where forms, meaningless constructionally, are stereotyped as the embodiment of ideas for which they were not originally designed to stand.

The whole outlook of the Gothic craftsman upon constructive science differed from that of the present day; his expedients included buttresses and pinnacles for certain structural and ornamental purposes which have been superseded by our development of materials capable of resisting tension, as well as compression. But by the Gothic revivalists these details of mediæval structure were revered far more fervently than by the people who actually introduced them into buildings for the prevention of structural defects. "The (modern English) architects evidently consider buttresses as convenient breaks of blank surface, and general apologies for deadness of wall," wrote Ruskin. "They stand in the place of ideas, and I think, are supposed also to have something of the odour of sanctity about them; otherwise one hardly sees why a warehouse seventy feet high should have nothing of the kind, and a chapel, which one can just get into with one's hat off, should have a bunch of them at every corner; and worse than this, they are even thought ornamental when they can be of no possible use; and these stupid penthouse outlines are forced upon the eye in every species of decoration; in some of our modern chapels I have actually seen a couple of buttresses at the end of every pew." Ruskin wrote from the standpoint of a man already familiar with Byzantine forms of art and with the knowledge of their effect in a light-saturated landscape, where the more wire-drawn forms of revivalist Gothic tend to become trivial and to look even more meanly pretentious than they do at home. His words, however, were thrown away on people who knew no other climate than their own and regarded their own methods as the only ones which could by any possibility be right. The symbolic theory of Gothic architecture (especially buttresses) is by no means dead even now, and in deference to it many a backwoods township sacrifices the old verandahed barn that has served as church conveniently long enough in order to offend its blue skies with some example of sham mediæval art, complete with every conceivable disharmony of shape and colour, and which ensures in addition the maximum of discomfort combined with the most blatant forms of architectural hypocrisy.



Design for a Church, South of the Equator.

That all parties responsible for this disaster have acted for the best in perfect good faith is one of its saddest aspects to anyone interested in present-day architecture and its possibilities. The community is provided with a "proper" church in very much the same fashion that Bishop Peter of Rum-ti-foo, in W. S. Gilbert's delightful verses, clothed his flock of "well-conducted persons" in his eminently respectable cast-off clothes—"His three-and-twenty suits they found in fair condition still." There seems to be no immediate prospect of delivery from this state of things. Genuine mediæval art is beautiful and interesting enough to excuse any amount of misdirected enthusiasm and the cure of one architectural excess all too often involves remedies that are worse than the disease. There would be but small advantage in replacing mediæval detail by antique, buttresses by pilasters, and so forth, and once again setting the classic purity of the Greek against the Christian symbolism of the Gothic style.

Some of the more recent specimens of modern Gothic are not quite so impossible as many that were erected in the early days of the revival, and the defects of church building in hot climates are but an acute symptom of a disease affecting a great deal of modern architecture. This is a tendency to give to archæological details attention that should be bestowed on the broader aspects of convenience of plan and general suitability in the form and colour of the building in respect to the place in which it is being built. The desire to give something symbolic of what is best in our civilisation to the aboriginal or the backwoodsman is an excellent one to mingle in a church design; but it should be possible to give expression to it in finer ways than by the incorporation of certain inappropriate details, whatsoever their source of origin.

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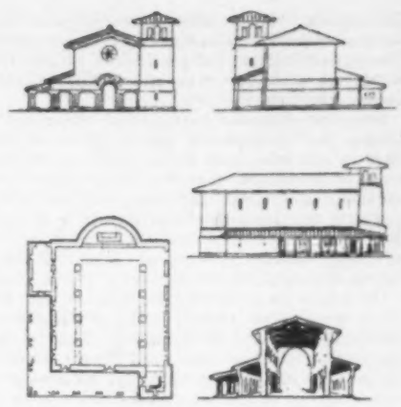

DESIGN FOR A CHURCH

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School-Church in Australian Bush.

the mission, the question arises of providing permanent buildings to meet its growing needs. The native building gang is broken up and the European architect gets busy with another design for export.

Some missionaries carry their experiments further and amend the sketch plans on the spot to suit ways and means that involve less cost of imported material, and where the architect and client are intelligent and sympathetic this leads to the best possible results. European and native methods stand a chance of being successfully blended instead of being set in opposition to one another.

It would be a mistake to suppose that the local method of church building will always be found worthy of imitation. The smaller Byzantine Greek churches are often extremely uncomfortable, dark and stuffy, without adequate means of heating or ventilation, and, on a festival, become almost uninhabitable with vitiated air. While unbearably hot in the evening, at midday they are often so cold as to give rise to violent chills to unwary Europeans coming in hurriedly from the heat and glare. These defects are largely due to the small scale of the buildings and the lack of ventilation. No through current of air ever blows the stale incense away. Granted larger scale and freer circulation of air many of these disadvantages would be obviated. Churches in some part of the world need not be always built with an eye to protection of the worshippers against physical violence, and larger windows and many doors opening on to verandah-like cloisters would be permissible in Australia, perhaps, though not in the Levant.

If the church is to be provided with its traditional fortress-like strength of wall in the lower parts adequate ventilation is more difficult, but a fortified outer wall to the courtyard might be made to serve for protection, while the church itself could be provided with a sufficient number of doors and windows capable of being opened during service. It should suffice to have the sacristy a lock-fast place and allow the remainder of the church to be comfortably open.

Under these circumstances the thick vaulting of Byzantine churches would keep off direct rays without creating undue chill. Thick, solid walls and vaults or, better still, thick walls provided with heat-resisting air-spaces should be installed whenever possible, and where vaulting forms the roof as well as the ceiling it is well to isolate the upper surface of slabs or tiles on ridges cast in the concrete to ensure air-space between the sunlight and the interior of the building. If pictures or mosaics are to be applied to the inner faces of the walls, the cavities must be arranged to exclude dampness as well as heat.

Windows should never be exposed to direct sunrays during midday services, and as far as practicable should be made to open into cloisters, *i.e.*, not over their roofs. Clerestory windows can be protected by wide projecting eaves if kept up near the roof and not made too large. Windows should never be introduced at the east end of a church in a hot climate, as the dazzle of light behind the altar is uncomfortable and distracting. The western light of late afternoon is even more to be avoided.

The materials of construction naturally depend upon local resources to a great extent Stone walls and vaulting should be adopted wherever possible and enduring materials chosen in all cases in preference to more perishable ones. Furniture should be movable rather than fixed, especially where it is liable to the attacks of white ants and other insect pests. Seats are not always required where the congregation is not in the habit of using them and either squat on the floor or bring seats of their own. In this case mats and rugs are used as floor coverings as in most native houses, for there is no need to "civilise" the congregation out of its perfectly legitimate and harmless customs. In fact, the people of Bethlehem, who were Christians by hereditary training and not by conversion, were allowed in the Franciscan church either to sit on the floor on rugs or to sit on chairs—whichever they preferred.

In a great many Greek churches the congregation stands during the service with the exception of the elderly and infirm, who are accommodated with stalls around the wall, where they obtain some trifling support. The absence of fixed seats is a great enhancement of the architectural effect of a church, which gains in scale in proportion as more floor-space is visible. If seats must be introduced, the small rushbottom stools that are familiar in so many countries east and west are most useful and unobtrusive. For coolness and ventilation, between the worshippers ample floor-space must be provided.

The internal division of the church must naturally be designed to suit the requirements of the ritual, and can only be undertaken in conjunction with the minister's detailed instructions.

In regard to style, simplicity and direct construction should be aimed at, whatever style is selected for imitation. In general, the buildings that look best in hot climates are those which have their walls left plain for the possible addition of ornament in colour, as funds permit. It should be remembered that the decorations to be seen on many famous early Christian or Byzantine Churches are not contemporary with the structure, which may have been left as a simple, whitewashed interior for many years before the ornamental finishings were applied. Nothing is gained by hurry to finish, and if the building is designed to look well with the mere play of light and shadow an appropriate commencement has been made. Architects attempting the design of buildings on these elemental lines by means of information sent from abroad should assist their efforts at adaptation of the simplified style by the use of models and faithfully rendered drawings with the reflected lights worked out in arch and vault. A great part of the distressing fussiness of English design creeps in through the fact that simple building forms look more or less uninteresting when drawn as lines on paper and modern English office routine demands that buildings should be designed on paper rather than on the site—a condition that applies especially to designs made here for buildings in foreign countries.

BOOK REVIEW.

The Mechanical Handling and Storing of Material. By G. F. ZIMMER, Assoc.M.Inst. C.E. London: Crosby, Lockwood & Son. Third edition. 1922.

We have in this volume a treatise on the automatic and semi-automatic handling and storing of commercial products, contained in 43 chapters, and illustrated with 1,143 figures clearly represented, to aid description, in addition to a table giving comparative weights of various materials for reference and a comprehensive index of 15 pages. The chapters deal with the continuous handling of material, by aid of elevators and mechanical conveyors, including the application of pneumatic and hydraulic means, aerial cable ways for both unloading and loading appliances, transporters, railway wagons, colliery tips, also intermittent continuity including warehouse accommodation. A novelty in this volume is found by the trade directory furnished by the author in five pages, giving the names and addresses of firms of repute who are the makers of the different machines described, inserted, not merely by the publishers as advertisement, but specially selected by the author. A useful introductory "foreword," written by Sir John Griffith, Past-President of the Institution of Civil Engineers, is added to this edition, in which he argues that the term "labour-aiding appliance" is preferable to the more familiar term "labour-saving appliance," and pleads for the output of each individual worker to aid production by the employment of means as a potent factor to maintain supremacy in commercial transactions. The book cannot fail to prove interesting to all who have to deal with the handling and manipulation of material for constructive work, and fully merits the commendation passed upon it by Sir John Griffith. It furnishes a most useful and valuable compilation of facts connected with the handling, storing and working of engineering material.

THE PLACE OF ART IN THE CHURCHES.

By JAMES GUTHRIE.

CHURCHMEN are fortunate in having made their Congress an annual event, a regular interrogation which effectually canvasses the opinion of clergy and laymen and sets the labours of the year on as broad a footing as learning and discussion are capable of establishing anything It is with some diffidence that the arts advance their claim upon the Congress; for, despite movements which promise a closer relationship of what is spiritual in art and architecture with the Church, no deliberate steps have been taken to reconcile aims which more and more declare their potential likeness. The Puritanical antipathy to art may be truthfully said to have no stronghold. Its reasons have been dealt with a thousand times; its objections, so far as they were well-founded, have long since been admitted, and plainly there can be no pitched battle between religion and art which would not be ridiculous.

Even the cry of "art for art's sake" has about it a ring of sincerity which is eventually traceable to a religious spirit of sincerity and whole-heartedness; for no artist with the least logic could assume that his work was aimless or empty of meaning. In such a cry he merely embodies his determination to render his art efficient on its own grounds. Only by being efficient on its own grounds can any art, whether of colour, or words, or iron, be of serious service anywhere in a lasting way. Skill, if it implies anything, implies personal fitness and discipline, which are themselves the most liberal acceptance of good principle. But, to approach the problem of how ways may again be found to use this force of human expression and aspiration in the service of religion, we must frankly realise that among the clergy a certain fallacious respect for traditional forms of art has not only defeated the attempts made by disinterested architects, sculptors and artists to improve the standard in each particular, but has created an industry, the products of which have been, and must continue to be, a by-word wherever a living spirit in art is esteemed.

The subject of art in churches bristles with this and kindred difficulties. What is written to-day is as true and as much in need of being written again to-morrow. Perhaps the real traditional continuation has been lost by the mere absence of a rich serviceable sense of beauty, and of a willingness both on the part of clergy and artist, to approach the problem with open minds. Perhaps the extreme weight of official deliberations is still apt to stifle delicate spirituality, or some automatic or hygienic zeal for public work shuts out any progressive idea that is not also practical in the dullest sense of the word.

Touching upon the economic side of the question, one has to face the fact that in producing good art, though it costs no more, and may conceivably cost less, than bad, artists are too little accustomed to estimating either time or expense, and present therefore an awkward proposition, despite their willingness and their capacity. The non-existence of any recognisable group taking upon itself the cause of religious art is due in part to long neglect, and in part to the sterility of modern art criticism, which, with a frivolous display of learning, attempts to decide the mode in advance. With a more practical conception of what is due, the Church has attracted advisers, whose interest in the fabric might well have done something to check the irruption of commercial art and furnishings had there been any real fellowship between artist and architect. For, instead of providing for the accession of the best, this system has, with a few exceptions, filled the churches with lifeless ecclesiastical handicraft, till the improvement that has been awaited and the failure that has been excused for so long no longer seem capable of intelligent direction.

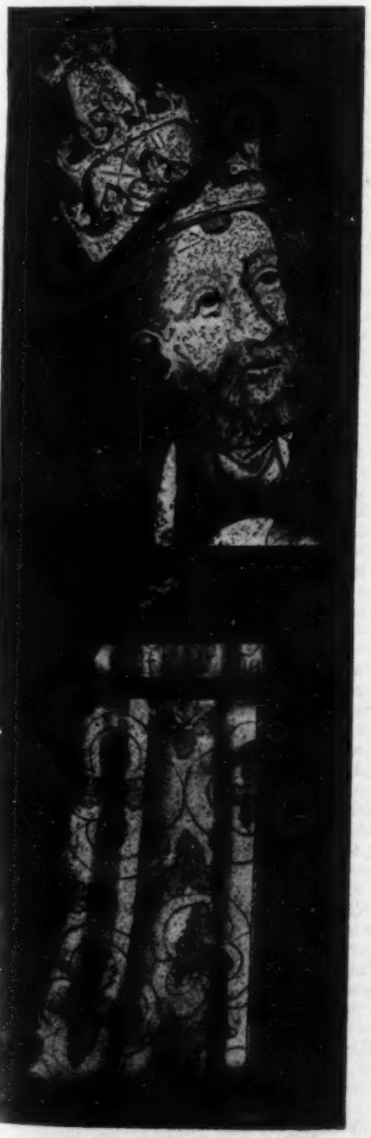
Despite the obvious complication of modern conditions, art finds scope and expansion, and adapts itself to a great variety of expression. Banished from deliberately religious purposes, those purposes do not disappear from art; never

theless, a definite impetus would be given to the rarer sort of imagination if it could be employed somewhat aside from the crudity of trade and from the different but equally false standards of the virtuoso. These have both acted upon the arts without calling forth spiritual qualities, because they must necessarily deny those qualities. Therefore, while the artist must often appear to want work to do, and thus shares in the common need for employment, no graver injustice could be laid upon him than to suppose that his motives are selfish. His contact with trade, even while that is often undeniable, is not so natural, and possesses a strong respect for the limitations within which he must express himself; the narrower and less logical restrictions of commerce impose themselves mainly upon the weak and the self-seeking. His training, moreover, brings him into the company of the great, and gives him that deep faculty for admiration which readily finds him well-disposed towards higher aims and worthier adventures.

A glance at any makeshift arrangement by which worship and entertainment are combined instantly shows how mischievous it might be to adopt, say, the cinematograph, and with that wonderful toy a whole train of popular undisciplined ideas, in support of religious faith. The Church, as an intellectual body, can only suffer by adopting popular standards, as these are ordinarily understood, and only gain by making the fullest use of the best, whether in architecture, music, painting, sculpture or literature. The religious spirit finds no higher expression than in art, and without that true element to inspire it, without a nobler ambition, than there can be in the common expedients, art cannot put forth its strength.

In writing on this subject one can scarcely avoid a note of complaint. The obstacles appear to obstruct one's hopes and beliefs, and one pleads for changes which are hard to define. These things may not hurry into being. Vast indifference has got to be overcome, leeway must be made up, interests fastened strongly must gradually be dislodged. If this were the labour of something undistinguishably cumbrous, seeking to be included for the same reasons on the same terms, no argument would be worth advancing in its favour. But the case is far otherwise. The reality of beauty is one which all may prove and witness for themselves. In place of melancholy colour and mechanical ornament, of imitation Italian pictures and deadly trade windows, we may reflect the joy of our own faith and our own skill to the utmost. The problem cannot be stated better, perhaps, than by saying that every artist longs at one time or other to paint a picture and to hang it in the church—in his own church at home. This is a natural and healthy ambition and perhaps rather ingenuous to be permitted full play; but it describes a better attitude than that which has opposed and displaced it without achieving authority where the arts are concerned.

Restored Glass at St. Saviour's, York.



Restored Glass at St. Saviour's, York.

STAINED GLASS AT ST. SAVIOUR'S, YORK.

THE ancient glass in the east window of St. Saviour's Church, York, has recently been repaired. The glass dates from about the beginning of the fifteenth century, and is Transitional in style. The main scheme was originally a representation of The Last Judgment, but with many interesting variations from the usual treatment. In the centre is a much-mutilated figure of our Lord seated, and in the act of blessing. In His other hand He has originally held a globe divided into one large and two smaller portions, the former being painted with waves to represent the sea, of which the greater part of the world consists. The other two divisions indicate land, represented by a house; and air, shown by a bird. At one side is a representation of the Blessed Virgin; on the other side is the figure of a Pope. Fragments showed that St. John the Evangelist was originally depicted, and several angels. Other angels blow trumpets to awaken the dead, and the hand and sword of the Archangel Michael is also to be seen. The row of small lights beneath contains figures rising from the grave. The tombstones have a cross with three steps upon them exactly similar to many examples of actual gravestones of the same period which are to be seen in York churchyards.

The glass is not badly corroded, with the exception of a pale blue, which has worn thin. This blue is not the cobalt blue, known to glass-makers as "red-blue," but was evidently a copper blue, which would account for its soft nature. Much of the white glasses have been of the kind known as "crown," which is made in a round sheet with a knob of glass in the middle. The figure of our Lord has been cut from such a sheet on which the original selvedge remains. By measuring the arc of the circle and making the usual calculations, it appears that the original sheet of glass was two feet in diameter. The method of painting lends colour to the supposition that the window is the work of John Burgh, who was free of the city in 1375, and executing work for the Dean and Chapter in 1399.

The restoration has been carried out by Messrs. J. W. Knowles & Sons, of York. As the glass is very fragmentary, little in the way of re-arrangement, in order to recover as nearly as might be the original design, has been possible, and the work has mainly been confined to re-leading. Much of the glass has been protected on both sides with clear sheet glass, and where new glass has been employed this has been dulled so as not to prevent the old from being seen by the glare of light. All the new glass has also been dated '1922' for future guidance, and all the most interesting detail photographed to a large scale.

Restored Glass at St. Saviour's, York.

MECHANICAL EQUIPMENT OF CHURCHES.

THE mechanical equipment of a church, including the lighting, heating, and ventilating work, forms a minor but very essential feature of the complete design, and it will be as well to consider the subject separately in the three sections.

Lighting.

In dealing with the lighting of an old church building the illuminating engineer is much more handicapped in designing an efficient installation than he is when dealing with a new building. With an existing church the lighting problem usually consists in the conversion of oil or gas lighting to electric lighting, and as the sentimental associations attached to the building usually extend to the lighting fittings, the problem frequently resolves itself into deciding on the best method of converting or modifying existing fittings to suit electric lamps, and of finding a method of concealing the wires without spoiling the architectural effects. One point only need be mentioned, viz., that it is almost invariably out of the question to utilise the gas piping for the electric light wires.

If there should be no objection to an entirely new scheme of lighting the problem for an old church becomes much about the same as for a new building as far as the system of lighting is concerned. It is almost impossible to make any general statement as to what will be best. Each case must be taken on its merits, but a few general principles may be noted. Obviously, any system involving lighting points of a high degree of brilliancy must be avoided unless the design of the building permits the use of some form of concealed lighting. In that case comparatively brilliant sources of light are permissible, but this system is not always practicable, nor is it always approved. The lighting scheme must also be devised so that none of the lamps come directly in the line of sight of any member of the congregation when looking towards the altar or pulpit. This is sometimes a difficult problem, but it must be solved or considerable discomfort will result for someone. Finally, the illumination should be designed to be as uniform as possible, averaging 2½ to 3 candle feet and not varying more than from 2 to 4 candle feet.

Consistently with these conditions there is the widest margin available for the lighting scheme, which can be arranged from pendants or brackets as may suit the architectural features of the church.

It might be added that concealed lighting is frequently quite satisfactory for the altar, and is in many cases almost the only effective scheme. It is much more frequently possible to arrange for this near the altar or in the choir than is the case with the main body of the church.

Once the lighting scheme is settled, the wiring system has to be considered. In an old building it will usually be found that some system of surface work must be adopted, and this fact rules out tubing fairly definitely, principally on the score of appearance, but also to avoid cutting away and other damage. Other systems, such as Henley or Kalecco wiring are entirely satisfactory and perfectly safe when properly installed, and they lend themselves so much more to concealment when run on the surface that tubing is rarely necessary. By giving attention to the desirability of hiding the wires, and perhaps by wasting a few yards of wire in roundabout routes to follow the mouldings of the architecture, the wiring can almost always be effectively concealed. Past experience helps considerably in this respect and usually a small extra expenditure is well laid out if it means the avoidance of unsightly wires running across stone pillars and so on. Needless to say, slip tubing should never be used.

In new buildings screwed tubing is more often practicable, providing the architect keeps the needs of the electrical engineer in view. The late Mr. Temple Moore was particularly helpful in this respect and always took great care that suitable provision was made for running the lighting and heating pipes.

If such provision is not made, right from the beginning of the building, it will be best to abandon the idea of using screwed tubing and to adopt the surface systems as already mentioned. They are easily concealed even on plain stone, and if painted to match the surroundings are scarcely noticeable anywhere. The wiring in any case will be most prominent where dropping down to switches, but a little scheming and adjustment will usually overcome this difficulty and permit these wires to be brought down in a corner or cupboard out of sight.

This brings forward the question of switch control, which is of considerable importance. The needs of the church must again be dealt with in each case individually. Choir and altar lights must, of course, be controlled by switches located near by—possibly under the control of the verger, or of the organist or choirmaster. This will depend on the size of the church and the responsibility attaching to the different officials.

For the main body of the church the switches must be under the control of the verger. He will generally have some position allocated for his use during the services and switches must be conveniently situated relative to this position, which may be near the choir or may equally well be at the extreme opposite end of the church.

The switches must include means for varying the illumination during different periods of the service. If multiple light fittings—say 5-light—are used, this can be done by arranging for one switch to control one or two lights on each fitting, whilst a second switch controls the remaining three or four lights. In this way the lighting of the church can be adjusted as required and yet be kept uniform. This is much more satisfactory than having switches to control alternate fittings which results in uneven illumination. An alternative scheme is to use a dimming switch so that all the lights can be left on but burning with a lowered intensity, but this is usually rather more expensive to instal and is certainly more wasteful of current.

If the church is a large one, which for some services is only partially filled, it is further desirable to provide extra switches so that only half the lighting fittings, near the altar, need be switched on at such times. The extra expense is usually fully justified by the economy in working, whilst the lighting effect is better The reduced congregation is also in this way. induced to concentrate near the altar, and half a church well filled is more satisfactory than the whole church half filled.

The lighting of the organ, class rooms, vestries, &c., are all more easily dealt with and do not call for special comment—except, perhaps, to recommend the provision of a plug and portable lamp for repairs and cleaning if the organ is of large size. Attention should, however, be given to the switch controls so that lights can be switched on or off from the doors used by the officials when opening or closing the buildings.

Heating.

The efficient warming of churches is now a recognised necessity, and the substitution of antiquated and often inefficient and unsightly apparatus by a modern and economic installation with better appearance, is always desirable and often essential.

Naturally, the work of designing a heating installation for a new church usually presents less difficulty than that of designing an installation for an old building.

It is rarely possible to use existing fittings in converting an old low-pressure system to a modern low-pressure system with any great advantage, and it is not possible from the practical point of view to convert high pressure or hot air systems of heating to low-pressure hot-water. It is, of course, frequently possible to utilise existing boiler houses, trenches, and chimneys, but it is generally advisable to discard old pipes and radiators.

Church heating differs from the general heating of other types of public buildings, in that churches are usually only required to be warmed to between 55 and 60 degrees F. for one day in seven. Churches are usually much more massive in construction than other types of buildings, and though the massive masonry is a comparative non-conductor, reducing the heat loss through the walls from the higher internal temperature to the lower outside temperature, the specific heat, or units of heat which the stonework will absorb is proportional to its weight, which is large by comparison with ordinary buildings. In the normal course of a church week from Monday until Saturday the stored-up heat units, in walls, roofs, &c., gradually pass to the lower temperature outside, until the whole structure is practically similar in temperature to the outside atmosphere.

The duty of the heating apparatus, therefore, is to generate and transmit (economically and efficiently, if possible) sufficient heat units to warm the mass of masonry whilst overtaking the loss of heat units which increases in direct proportion to the difference between the internal and external temperature. This loss takes place through walls, windows, roofs, doors, &c., in the interim until the desired internal temperature is reached, when the loss is at maximum. As this gradually increasing heat loss from the interior to exterior can be quite easily calculated, it is quite possible to determine the approximate number of hours which the heat generating and transmitting apparatus will take to raise the internal temperature 25 to 28 degrees F. above the external, given the heating surface installed and the boiler capacity with the fuel at disposal.

The heat generating and transmitting apparatus is usually specified to be of such dimensions as to be capable of maintaining a desired internal temperature when the outside temperature is also specified, the usually accepted temperatures being 55 degrees to 60 degrees F. inside and 32 degrees outside. What is usually omitted in such specifications is, perhaps, of great importance to the client, viz., that the boiler should be capable of generating the maximum specified heat units at a specified thermal efficiency.

In calculating the capacity of the heat generator it is necessary to remember that the maker's rating for boilers, *i.e.*, the units of heat they will generate per hour, is based on the burning of high class fuel of approximately 12,000 B.T.U.'s calorific value, whereas the present normal calorific value of average coke is probably only 9,000 B.T.U.'s. For this reason, coke being the fuel normally used in this class of installation, boilers rated at 25 per cent. to 35 per cent. greater duty than that estimated to be given off from pipes, radiators and mains, &c., at maximum duty, should be selected—otherwise excessive stoking or fuel consumption will be an unsatisfactory feature of the installation.

Disposition of Heating Surface.

In the past heating surface has been disposed in trenches covered with gratings, but this is now generally discarded as the smell from dust and dirt accumulating in the trenches is often very objectionable. Where the heating surface is kept above the ground so that it is visible, even if concealed as much as possible, it is more efficient and much more likely to be kept clean and free from dust, and as the pipes can now be kept small in diameter and radiators of neat appearance can be installed, this is considered to be far preferable to concealed heating surfaces.

The construction of churches is such that it is necessary and also best to fix heating surfaces near the ground, custom and tradition also rendering this desirable. In gravity circulating installations the motive power for circulation is that due to the difference in weight of the water immediately leaving and returning to the boiler. Where the radiators are not far above the top of the boilers this difference is small unless the difference of temperature is great, but it is not advisable to work on temperature differences of more than 40 to 50 degrees F.

Tall radiators having flow connections at top help to increase the circulating head, but it is advisable to sink the boiler house 5 to 7 ft. unless a small electrically-driven water circulator is installed, when the boiler can be on or above the floor. Where this is necessary due provision should be made so that the circulator can be safely shut off during actual church service, as otherwise noise may be transmitted by the pipes.

In modern churches the pew floors are raised 2 to 2½ in. above the aisle. The longitudinal step formed by this arrangement makes a convenient space adjacent, along which to run small mains so as to distribute the heat-emitting pipes over the whole area of the church. Two pipes can usually be run under the seats close to the walls without being too conspicuous. Mains crossing from north to south, or *vice versa*, should not be visible at the altar end. Single circulating pipes give a much better appearance than double pipes, supplementary surface for giving off the required heat units and for air circulation reasons, being better disposed in modern type radiators than making up or distributing in pipes.

In the more northerly districts where the internal temperature may normally be expected to fall below freezing during the week, and where heating cannot be kept going on account of expense, a high pressure system is probably best to install, protection from actual contact of woodwork or of the clothing of the members of the congregation with the pipes being provided.

Ventilation.

As churches are lofty there is not the necessity, especially where electric lighting is used, for elaborate ventilating apparatus.

The disposal of heating surface, leaving gaps between radiators and pipes, has the effect of heating surrounding air, which rises, as corresponding cooled air at unheated parts cools and falls.

This recirculated air is generally sufficient with a probable air change of one to one and a half times the contents of the church per hour, taking into consideration the short length of time of occupation. In connection with the movement of air currents, as the cooling effect on the air is greatest at the walls and windows, it is necessary to prevent down-draughts by placing heating surface at the walls. Fresh air can be warmed conveniently by passing this through radiators fixed close to the walls, and efficient extraction can be made by roof ventilators.

Where services are of long duration the extraction should be supplemented by a slow-running air extraction fan fixed to the end of a duct, which, in turn, is connected to the ceiling ventilators.

A point of interest in connection with ventilating might be noted by recital of actual experience of the effect of disposition of heating surface and high temperature heating on air circulation.

The writer was called in to diagnose, if possible, certain faults in the heating and ventilation of a church. The church had been enlarged, leaving the original part heated and remainder front portion entirely or only very slightly heated. The heating was by a high-pressure system, and the heating surface somewhat concentrated at one end.

A smoke test revealed the fact that very high velocity air currents were set in motion due to the high temperature at one end, and the low temperature at the other, so much so that elderly and substantial members, who quite naturally found accommodation at the front (unheated) end, had to resort to turned-up collars and to threats of becoming ex-members.

Unlike lighting, it will, therefore, be seen that heating must be disposed, irrespective of concentration of the congregation, so that the whole church is heated, as otherwise air circulation, which is highly advantageous in moderation, may become highly undesirable as a draught.

EARLY LONDON THEATRES.

AT a meeting of the Bishopsgate Ward Club, held at the Great Eastern Hotel, on Wednesday last week, the chair was taken by Mr. John Todd, President. A lecture was delivered by Mr. G. Topham Forrest, F.R.I.B.A., Architect to the London County Council, on "The Early London Theatres and their Influence on Shakespeare."

Mr. Forrest said that one of the first duties he had to perform after his appointment to the London County Council was in connection with the preparation of a suitable design for a tablet to be fixed in the parish of Shoreditch to indicate the site of "The Theatre," the first London building devoted to the public performance of plays. That building was erected by a man named James Burbage, the head of a company of strolling players, which, at a later date, was to include Shakespeare himself. Then quite recently the site of the famous Globe Theatre in Southwark was discovered.

Previous to the erection of the first playhouse, about eleven years before Shakespeare came to London, it had been customary for companies of strolling players to give public performances in the yards of inns. In 1571 the number of companies which could perform in the inn yards was strictly limited by Act of Parliament. A few years later the opposition of the Puritans to plays and players became very pronounced. In 1573 the Lord Mayor of London adopted the puritanical attitude and in the following year the City authorities passed certain by-laws which practically forbade the performance of plays in the City. That opposition was the principal reason why Burbage decided to build a playhouse beyond the jurisdiction of the City authorities. He, therefore, selected Shoreditch. Soon afterwards "The Curtain" was erected and after Shakespeare's arrival a number of others were built. The fact of having to write plays for a company regularly appearing at one house where the audiences demanded frequent change, compelled Shakespeare to write as he did. Further, his plays had to be of a high standard, for by that time other companies were in competition with him. Thus it came to pass that the fixed playhouse was a most important factor in fostering the poet's genius. Unfortunately, none of the early London theatres with which Shakespeare was associated remained, and it was impossible, other than by a synthetical process to indicate what they were like. There was, however, one building—the Middle Temple Hall—in which his company performed and he himself most probably took part. The Hall to-day was actually as it was in those days, except for the electricity. "Twelfth Night" was performed there in 1601. In Gray's Inn Hall "The Comedy of Errors" was played in the poet's lifetime, though it was doubtful whether he was present.

When Burbage erected "The Theatre" he followed the gallery principle obtaining in the courtyards of the old inns. As in the case of the theatres none of the inns were in existence, but reliable views of them were available. The Bell Sauvage Inn, which stood on Ludgate Hill, was a well-known rendezvous of the travelling companies and no doubt the original Burbage company often performed there. The White Hart Inn, Southwark, was a very fine example of the type patronised by the players, and reference was made to it by Shakespeare in "Henry VI." The Globe Inn, just off the Borough High-street in Southwark, which still existed, was erected in 1672, and was probably a fairly reliable copy of the old structure in the courtyard of which the early players often erected their stage. In many of the old inns the galleries ran round three sides of the yard and the players erected their stage at the fourth, or entrance side, at which the public were admitted and allowed to stand on the ground in front of the stage. Visitors at the inns would occupy the galleries, and pay more than the "groundlings," who were apparently charged one penny. It was quite certain, however, that "The Theatre," and "The Curtain" with which Shakespeare was also connected, were approximately round. Burbage's reason for departing from the rectangular shape was probably due to the fact that bear-baiting and bull-baiting amphitheatres, which existed in Southwark, were more or less round, and showed how the greatest number could be accommodated in a given space. The lecturer had come to the conclusion that they were polygonal in shape, the general effect, when viewed from a distance, being that of a circular building, and they were probably about sixty to seventy feet in diameter. Houses, bearing a tablet, now stood on the site of "The Theatre," which was erected in 1598, and the wood of which it was constructed was taken to Southwark and employed in the famous "Globe" building.

"The Curtain" was situated on a site about two hundred yards to the south, on what was now the junction of Hewett-street and Curtain-road. The other two houses, other than the "Globe" and "Blackfriars," at which Shakespeare's company performed, were the "Rose" in Southwark, and the Newington Butts theatre, the former of which was the earliest scene of Shakespeare's pronounced successes as actor and dramatist. Nothing definite was known as to the site or the architecture of the one at Newington Butts, which it was thought was erected about 1586 and pulled down very early in the seventeenth century. The piece of ground on which the famous "Globe" Theatre stood, situated approximately 300 ft. to 500 ft. south of the river, now formed part of the approach to the new Southwark Bridge. The name had nothing to do with the shape of the building, but was merely a relic of the inn yard days. It was for that theatre the majority of Shakespeare's plays were written, and it was there they were produced. The building was burned down in 1613. The last of the London theatres with which Shakespeare was connected was at Blackfriars. The building was bought by Burbage and there his indoor theatre was constructed in 1596.

At the conclusion of the lecture a hearty vote of thanks was accorded to Mr. Topham Forrest.

A Building Owner and the Workmen.

A most enjoyable event (and an event which it is hoped in certain quarters will be looked on as a precedent to be generally followed) took place at the new premises now nearing completion in Mortimer-street, W.1, for Messrs. Samson Clark & Co., Ltd., advertising contractors. To mark his appreciation of the fact that the building had been erected in a remarkably short space of time by Messrs. Bovis, Ltd., Mr. Clark entertained practically the whole of the men engaged on the building to a dinner, at which roast beef, ale, and churchwarden pipes were much in evidence, in the new premises. The speeches were kept short, in order that a concert might be fully appreciated. The toast of "The Guests" was proposed by Mr. Clark, and responded to by Mr. Courtenay Constantine, F.R.I.B.A., the architect of the new building. Mr. Sidney Gluckstein (Managing Director of Bovis, Ltd.) also responded, and expressed his recognition of the fact that it was only by the co-operation of all the employees with the principals and supervisory staff of the firm that it had been possible to put up the building so quickly.

Obituary.

The death has taken place at his residence, Vernon-road, Leeds, of Mr. James Barlow Fraser, F.R.I.B.A., who was at one time a well-known Leeds architect. Mr. Fraser, who was in his eighty-seventh year, had lived in retirement for some years.

Mr. Fraser was one of the early members of the Leeds and Yorkshire Architectural Society, and was president for a number of years.

THE BUILDING TRADE.

THE NATIONAL FEDERATION OF BUILDING TRADES' EMPLOYERS.

The half-yearly general meeting of this Federation was held in the King George's Hall, Tottenham Court-road, London, on Wednesday last. Mr. John Good, D.L., J.P., F.I.O.B. (President), of Dublin, was in the chair.

As we were not invited to the meeting we are unable to give a full report of the proceedings, but we have received the following account from the Federation:

Wages and Conditions.

"The Interim Report stated that the National Wages and Conditions Council, which had been in existence for just over twelve months, had had a delicate and difficult task at the outset; the rapid decline in the cost of living that had since ensued added to its difficulties. They had, however, been able to reach a series of decisions which reflected great credit upon them, and would doubtless confer substantial and lasting benefits upon the building industry. The total effect had been that wage reductions from the 'A' rates had been arranged by the Council during the past twelve months equal to 29s. 4d. per week for craftsmen and 36s. 8d. per week for the labourers, and from other rates in proportion, which represented a very substantial contribution by the industry towards getting back to normal post-war conditions. The effect was to stabilise conditions as to wages and hours until next spring. The feeling was that it was for the general good that time should be allowed to enable the recent changes to be assimilated and their anticipated effect in stimulating the industry realised.

"In the course of a discussion on this subject it was stated that the rates which will be payable to building labour employed in the railway companies' shops under the July award of the Industrial Court, exemplified changes in conditions which were also applicable to other industries, and the building industry in particular.

"Mr. Howarth (Rochdale) pointed out that the National Wages and Conditions Council had been able to stabilise wages without strikes and lock-outs and he urged the stabilisation of a wage which would not be a starvation wage, but one which would give public confidence and which would encourage a return to prosperity in the building trade.

"Mr. S. Easten (Newcastle-on-Tyne) said a reduction of wages in the building industry was absolutely imperative. If they could get wages down to a reasonable level, there would be a boom in building such as the country had not seen for many years. At the same time they wanted to show loyalty to their agreements for their duration. They must keep faith with the architects and the operatives, as the effect of any breach of faith would far outweigh any temporary advantages that might accrue to them. There was no justification for members of the building industry having to pay more for their labour than employers in other industries.

"The Interim Report on the subject was passed with the following resolution: 'That it be a determination of this Federation to see that the hours, wages, and conditions of labour in the building trade are brought into conformity with those of other employers employing similar labour to that which we employ and that it instructs the Council to take action accordingly.'"

Education and Welfare.

"The Council submitted a draft proposal for taking over and carrying out work of the Educational Committee and the Welfare Committee of the Joint Industrial Council for the Building Industry."

"The following resolution, however, was put before the meeting: 'That in the opinion of this Committee it is inopportune to further pursue the matter of setting up a proposed Joint Committee to take over the work of the Education and Welfare Committees of the late Joint Industrial Council for the Building Industry.'"

"Mr. T. Howarth, in moving the adoption of the resolution, said that employers looked upon an apprentice as a boy whom they were going to train to a trade and make a real craftsman of and he objected to the suggestion of dual control."

"Mr. W. Cooke (Preston) seconded, contending that the employers generally had the greatest interest in the apprentices in seeing that they were properly trained and that they became a real asset to the industry. In some towns employers formed classes themselves where apprentices, and even employers, attended."

"The Chairman said he had made a study of this question. He found that in some trades it was considered necessary that there should be a percentage of 33 apprentices as compared with the number of craftsmen, to stabilise these trades, and in other trades it was considered that 25 per cent. was necessary. A return in connection with the building industry in 1920 showed a percentage of only 14 apprentices. He was satisfied, therefore, that a radical change was necessary in their apprenticeship system, both in the interest of the employers and also of the operatives. They ought to see that the number of apprentices was very much larger than it was for this reason, that if these boys were not trained to the skilled trades they would, in the great majority of cases, drift into unskilled labour and be far in excess of the demands."

"Mr. Easten (Newcastle) said the percentage of apprentices in 1920 was not a fair comparison because they had just gone through the war; work was scarce and apprentices were not required. He was not satisfied that the scheme suggested would increase the number of apprentices; in fact, he believed that it would have the opposite effect. He was a great believer in dual control where it was exercised in a judicial capacity; but he regretted to say that his impression of the meetings which he had attended at the Industrial Council was that the sentiments expressed there on the part of the operatives did not come from those interested in what was best for the industry."

"The resolution was unanimously carried."

Building Contracts.

"The report stated with regard to the building code that efforts had been made to obtain the appointment, under Government aegis, of a suitable independent chairman to preside over the deliberations of the tribunal, which it had been agreed should be set up to draw up a new code for national use, safeguarding the interests of all parties concerned."

The Working Week.

"Arising out of a resolution from the Southern Counties Federation urging the National Federation to take steps to lengthen the working week, Mr. W. H. Nicholls (Gloucester) said that the 44-hour week must be ended at the earliest possible moment, in the interests of all engaged in the industry."

Work on Housing Schemes.

"A discussion arose in regard to the delay of the various authorities in paying builders for work done on housing schemes, and a resolution on the motion of Mr. Roland B. Chessum (London) was carried to the effect that the Federation should, if necessary, press for a deputation to the Ministry of Health in order to secure that the builder be paid without further delay."

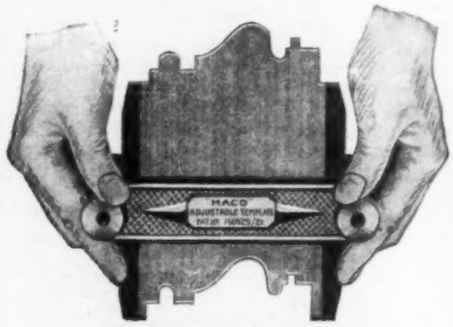
Painting Regulations.

"It will be recalled that in the regulations recently issued by the Home Office, dry rubbing down to interior painting is to be prohibited. This proposal has raised the question of the effectiveness of the appropriate substitute, which is supposed to be damp rubbing down with waterproof glass paper, and a demonstration of the new process was given to the members after the meeting."

NEW INVENTIONS.

An Adjustable Template.

THIS British-made tool, sold by H. B. Turner, 79, Playford-road, N. 4, consists of a great number of very fine strips of steel or brass held together by means of set screws in a rigid metal frame. A slight release of the set screws allows the slender strips to slide into any desired position as the edge of the adjustable template is pressed against the moulding or object whose section is under examination. The first pressure produces a rough approximation of the mouldings contour, and a very great degree of accuracy can be obtained by carefully driving forward the strips by gentle pressure with the thumb-nail. When the contour has been obtained to the required degree of accuracy, a turn of the set screws holds the metallic strips fast in position while the template is being removed from the work and employed in marking off the section



The "Maco" Template

on a flat surface, or is being applied to any moulding which it is desired to compare with the first. The template can be changed and reset in an instant by releasing the set screws and applying it again to some other object. Reasonable care must be exercised in keeping the plane of the tool perpendicular to the work, but the same attention is required in the case of the old-fashioned template, prepared by the laborious method of cutting and filing to shape.

A little experience will direct the template user in the best way to obtain accurate results, and for all specifications including the words "the new mouldings to match existing," the "Maco" template will prove itself invaluable.

Electrical Trade Wages.

In accordance with the agreed recommendation of the National Conference of National Federated Electrical Association and Electrical Trades Union, at York, July 27, 1922, the rates of all grades have been reduced by a further 5 per cent. on the April 1921 rates, making a total reduction of 27 per cent.

"Electrical Contractors' Year Book."

The 1922-23 edition of "The Electrical Contractors' Year Book," just published (London: The Electrical Contractors' Association, price 2s. 6d.), contains a great deal of useful information for those interested in this branch of the building industry. The constitution and officers of the Association, members of committees and branches, &c., are set out in full, as also are the working agreements with the operatives' organisations which govern the present rates of wages and conditions in the electrical installation industry.

LONDON-DOVER ROAD.

THE London-Dover road improvement is one of the most important relief schemes inaugurated by the Ministry of Transport. The object is to provide a straight, level, dustless road to meet modern traffic conditions, and the work is being carried out by over 1,100 men recruited from the Tavistock-place Labour Exchange. Many difficulties are being overcome in this great engineering enterprise by Messrs. Roads & Public Works, Ltd., Westminster, who are engaged on the seven miles between Farningham and Wrotham. The total extent of the improvement of this arterial road at present is 14 miles, and the work involves cutting through and setting back high chalk cliffs, the building of high embankments, the filling in of connecting slopes, ravines and ditches, levelling up to avoid steep gradients, widening to 80 ft., the making of a concrete kerbed carriageway 30 ft. wide, and the elimination of awkward corners by the provision of sweeping curves. The surface will be dressed with a mixture of bitumen and tar, and when it becomes thoroughly consolidated by the traffic, it is proposed to coat the carriageway with a carpet of asphalt. All the sectioning work of the new road, for which over 400 separate drawings had to be prepared, was carried out by the same firm. The new road crosses the old Pilgrim-way at Wrotham village, which is by-passed almost in a direct line from the top of Wrotham Hill, where a wide embankment of about 50 ft. in height has been built from the material taken away from the chalk cliffs, to join the diversion. The excavations here brought to light skeletons of two men, one of which is thought to have been an early Saxon invader, whose remains were found in a sitting posture in the chalk grave.

Bristol's New Lord Mayor.

Mr. Alfred Dowling, the head of a well-known local firm of builders, has been asked to accept the office of Lord Mayor of Bristol for the coming year.

NEW BUILDINGS IN LONDON.

REDCROSS-STREET. — Messrs. Perry Bros., 21, Whitecross-street, are carrying out alterations to the premises, Nos. 48 & 49, Redcross-street, E.C., for the Metropolitan Railway Co. The work includes the provision of means of escape in case of fire, new sanitary accommodation, &c., and will cost, it is estimated, about £2,500. The architect is Mr. E. Stanley Iles, Lic.R.I.B.A.

WARDOUR-STREET.—Messrs. T. W. Heath, Ltd., 29–33, Christchurch-street, Chelsea, S.W.3, are carrying out extensive repairs and decorations at Pinoli's Restaurant, Wardour-street

CHELSEA.—At the South Western Polytechnic, Manresa-road, Chelsea, Messrs. T. W. Heath, Ltd., are providing a new sanitary block.—— Mr. Henry J. Greenham, housebreaker, is pulling down a part of St. Mark's College, Chelsea, prior to the carrying out of new work. Messrs. Beazley & Burrows are the architects concerned.

REGENT'S PARK.—A range of shower baths at the Regent's Park Barracks, for the Royal Engineers, is being constructed by Messrs. T. W. Heath, Ltd.

GOLDERS GREEN.—We understand that the Express Dairy Co. will shortly open a depôt at Golders Green.

PADDINGTON. — The Council contemplate erecting municipal baths next year, but, as yet, no specifications or quantities have been issued. Mr. Herbert Shepherd, Queen's-road, Bayswater, is the architect. The Ministry of Health have sanctioned the borrowing of £10,000 towards the project, which, it is estimated, will cost £100,000.

TOOTING.—The Royal Arsenal Co-operative Society, Ltd., have acquired a site at Tooting for the erection of a branch. Plans are now in hand and the work will be proceeded with in the near future. The building work will be carried out by the firm's own works department, but sub-contracts will be let out in due course.

WILLESDEN.—Extensive additions to the premises of the Metallurgical and Chemical Corporation of Willesden are under consideration.

MERTON.—Mr. Henry J. Greenham, housebreaker, Rosebank Wharf, Fulham, S.W. 6, has just commenced the demolition, complete with water mills and wheels, of the old Wandle Flour Mills, Bygrove-road, Wandle-bank, Merton. A new factory is to be erected by Messrs. McLaughlin & Harvey, of 24, Highbury-grove, N.5.

THE ROYAL MINT.—It has been current report in the City that the Royal Mint is about to be rebuilt, says the *Daily Telegraph*. "The decision is understood to have been taken to put in hand without avoidable delay the erection of a tall central structure in the Bank of England block. There is high authority for stating that no scheme for rebuilding the Royal Mint has yet been determined upon. Numerous economies in working could be effected were the entire place replanned and its floor space enlarged, but for this to be done a considerable sum of money must be voted. The Royal Mint has the advantage of possessing an admirable site, which could be enlarged and made compact by taking in neighbouring premises now occupied by Customs officials and others."

HYDE PARK.—Messrs. G. W. Higgins & Sons, Ltd., 34, Connaught-street, Hyde Park-square, W.2, are carrying out structural alterations, sanitary work and decorations at Hyde Park-terrace, W.2. The work includes the conversion of stable premises at rear into large ball room, new bathrooms, and lavatories. The sub-contractors are:—Steelwork: John Hanson & Co.; steel ceiling: The Steleonite Co.; oak floors: Priday & Son; and asphalte: Salter, Edwards & Co. The remainder of the electrical, sanitary, and decorating work is being undertaken by Messrs. Higgins' own staff.

WIMBLEDON.—In connection with the new branch that the London Joint City and Midland Bank are opening at Wimbledon, for which Messrs. A. Roberts & Co., Ltd., 74, Earl's Court-road, Kensington, W.8, are the contractors for the alterations, the construction of the front is

The London-Folkestone Road Widening.

brick faced with Crowborough facing bricks and with Portland stone dressings. All the sub-contracts are let, the principal ones being:—The Excellence Reinforced Concrete Co., reinforced concrete work; Messrs. F. J. Barnes, Ltd., Portland stone; Messrs. Maclean & Co., steel casements; and Messrs. Measures Bros., steel construction.

Notting Hill Gate.—Messrs. Trollope & Colls, Ltd., 57, Park-street, W.1, are erecting a hairdressing saloon adjoining the Metropolitan Railway station at Notting Hill Gate. All the sub-contracts are let. The architect is Mr. C. W. Clark, the company's own architect.

Kensington High-street, W.—Mr. Walter Nash, 239, Kensington High-street, is carrying out external works at 135–161, Kensington High-street, W. The work includes repointing brickwork of chimney stacks, parapet, and main walls, lead soakers to roofs, reconstruction of stone copings, part new leadwork to dormer cheeks and flats, painting, &c.

Hampstead.—We understand that an anonymous donor has offered to build a chapel at St. Judes-on-the-Hill, Hampstead, at a cost of £4,000. The chapel will be in memory of the donor's son.

Fulham.—It is estimated that the cost of reconstructing Fulham casual wards into public slipper baths by the Borough Council will be about £25,000.

Piccadilly.—Mr. Nelson Wise, housebreaker, &c., 105, De Beauvoir-road, Kingsland, N.1, is carrying out the demolition work at 196A, Piccadilly, W.

Hampstead.—Messrs. W. S. Barton & Co., 43, Chancery-lane, W.C.2, are converting the house, No. 31, Maresfield-gardens, Hampstead, into flats.

Westminster Bridge-road.—The Rodney public-house, Westminster Bridge-road, is undergoing alterations and additions in order to provide a new restaurant. The work is being carried out by Messrs. W. S. Barton & Co.

Fulham Palace-road.—The premises, No. 103, Fulham Palace-road, W.6, are being altered by Messrs. W. S. Barton & Co. for Messrs. David Greig.

Brixton.—Messrs. W. S. Barton & Co. are undertaking alterations to the Railway Hotel, Atlantic-road, Brixton, S.W.2. These include the provision of a new dining room, saloon bar, and grill room.

Newton-street.—Alterations are in progress at No. 19, Newton-street, High Holborn, with the object of forming an addition to the Holborn Restaurant. The work is in the hands of Messrs. G. Godson & Sons, Ltd., Pembroke Works, Kilburn-lane, W.10. Messrs. William R. Woodward & Sons are the architects. All the sub-contracts are let.

Pall Mall.—On this important site at the western end of Pall Mall, a portion of which was recently occupied by the Guards' Club, large new banking premises are being constructed by Messrs. Hall, Beddall & Co., under the direction of Mr. T. B. Whinney. The frontages both to Pall Mall and facing Marlborough House are being executed in Portland stone by Messrs. F. J. Barnes, Ltd.; Messrs. Moreland, Hayne & Co., Ltd., are providing the constructional steelwork, and the lifts are being installed by The Express Lift Co. Other sub-contracts are being arranged.

Oxford Circus.—The rebuilding of the last quadrant of the Circus has now been arranged, and Messrs. Jays' have entrusted the work to Messrs. Hall, Beddall & Co. The building has been designed by Messrs. Tanner. Other sub-contracts are not yet completed.

Greenwich.—It is understood that the local authorities of Greenwich contemplate building a new town hall in Trafalgar-road. The estimated cost is £60,000.

Kenilworth Abbey Excavations.

In the course of the excavations at the Abbey ruins, Kenilworth, an escutcheon, quartered with the arms of the Newburgh and Beauchamp families, has been found. It is in the usual shield-shape, about 4 in. across. The design is wellnigh in a perfect state of preservation, worked in inlaid enamel and gold.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons	Bricklayers.	Carpenters, Joiners.	Plasterers	Slaters.	Plumbers.	Painters.	Masons'	Bricklayers' Labourers.	Plasterers'
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Barry	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/0½	
Bath	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Bedford	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5½	
Birkenhead	1/8	1/8	1/8	1/8	1/8	1/9	1/8		1/3	
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Bolton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Bournemouth	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Bradford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½		0/11½	
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Brighton	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Burnley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Bury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Cambridge	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Cardiff	1/4	1/4	1/4	1/4	1/4	1/4	1/4		1/0	
Chatham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Chelmsford	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/0½	
Cheltenham	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Chesterfield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Colchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Coventry	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Crewe	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Doncaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Dudley	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
E. Glam. (Mon. Vall.	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Eastbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Exeter	1/4	1/4	1/4	1/4	1/4	1/4	1/4		1/0	
Folkestone	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/0½	
Gloucester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Grantham	1/8	1/8	1/8	1/8	1/8	1/8½	1/7		1/3	
Grays	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Grimsby	1/4	1/4	1/4	1/4	1/4	1/4	1/4		1/0	
Great Yarmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Guildford	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Hartlepools	1/4	1/4	1/4	1/4	1/4	1/4	1/4		1/0	
Hastings	1/5	1/5	1/5	1/5	1/5	1/5	1/4		1/0½	
Hereford	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Hull	1/4½	1/4½	1/4½	1/4½	1/4½	3/4½	1/4½		1/0½	
Ipswich	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Lancaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Leamington Spa	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Leicester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Lichfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Lincoln	1/10	1/10	1/10	1/10	1/10	1/10	1/10		1/5½	
Liverpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8½	1/7		1/3	
London	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Loughborough	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Luton	1/4	1/4	1/4	1/4	1/4	1/4	1/4		1/0	
Maidstone	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Northampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Norwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/0½	
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Oxford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Plymouth	1/6	1/6	1/6	1/6	1/6	1/6	1/5		1/1	
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/	
Reading	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Rochester	1/4	1/4	1/4	1/4	1/4	1/4	1/4		1/0	
Rugby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
St. Albans	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
St. Helen's	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Scarborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Southampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Southend-on-Sea	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/9	1/10		1/3	
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4		1/0½	
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/5		1/0½	
Taunton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Torquay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Tunbridge Wells	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Walsall	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Windsor	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½		1/0½	
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8		1/3	
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	
York	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½		1/2	

(For rates of wages in the Building Trade in Scotland, see page 559).

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

OCTOBER 14.—**Burntisland.**—HOUSES.—Erection of 10 houses on the Haugh site, for the T.C. Burgh Surveyor, Burntisland.

OCTOBER 14.—**Colwyn Bay.**—NEW BLOCK, &C.—Erection of new Nursing Block (47 beds) and additions and alterations to the existing hospital in Hesketh-road, for the Building Committee of Colwyn Bay and West Denbighshire Hospital. Mr. S. Colwyn Foulkes, A.R.I.B.A., Architect, Central Chambers, Colwyn Bay. Deposit £3 3s.

OCTOBER 14.—**Falkirk.**—EMPLOYMENT EXCHANGE.—Erection of an Employment Exchange at Falkirk. Architect, H.M. Office of Works, 4-5, Drumsheugh-gardens, Edinburgh. Deposit £1 1s.

OCTOBER 14.—**Glasgow.**—HALL.—Erection of a Public Hall in Wellshot-road, Tollcross, for the T.C. Office of Public Works, 64, Cochrane-street, Glasgow. Deposit £2 2s.

OCTOBER 16.—**Birkenhead.**—FLATS.—Erection of one block of eight flats in connection with the Lansdowne-road housing scheme, for the T.C. Mr. T. T. Rees, Housing Architect to the Corporation, 64, Rodney-street, Liverpool. Deposit £1 1s.

OCTOBER 16.—**Birkenhead.**—ROOF.—For providing roof to passage at the Infirmary, for the B.G. Mr. H. E. Shennan, Architect, Guardian Assurance Buildings, 35, Dale-street, Birkenhead.

OCTOBER 16.—**Birkenhead.**—STORES, &C.—(*a*) Provision of food, coal, and firewood stores; and (*b*) alterations and additions to the maternity block at Infirmary, for the B.G. Mr. H. E. Shennan, Architect, Guardian Assurance Buildings, 35, Dale-street, Birkenhead.

OCTOBER 16.—**Bridlington.**—REFRESHMENT ROOMS.—Erection of refreshment rooms at Bridlington Station, for the North-Eastern Rly. Co. Mr. Stephen Wilkinson, architect, York.

OCTOBER 16.—**Buckfastleigh.**—STORE.—Erection of coal and grain store at South Brent, for the Buckfastleigh Co-operative Society Ltd. Head Office, Chapel-street, Buckfastleigh.

OCTOBER 16.—**Dumfries.**—ALTERATIONS.—Alterations at Sheriff Court House, Dumfries, for the C.C. Mr. John Robson, County Clerk, County Buildings, Dumfries.

OCTOBER 16.—**Glamorganshire.**—PAINTING AND REPAIRS.—Tenders are invited for the following works for the Glamorganshire Standing Joint Committee of the County Council and Quarter Sessions:—Internal painting and repairs at (*a*) Caerau Police Station, (*b*) Cwmavon Police Station, (*c*) Llanbradach Police Station, (*d*) Llantwit Major Police Station, (*e*) Penygraig Police Station, (*f*) Port Talbot Police Court and Station, and Weights and Measures Buildings, and (*g*) Skewen Police Station; Installation of electric light, The Police Stations named, or Mr. W. E. R. Allen, Deputy Clerk, Glamorgan County Hall, Cardiff.

OCTOBER 16.—**Hendon.**—PUBLIC CONVENIENCE.—Construction of public convenience (underground) at Brent-street, Hendon, for the U.D.C. Mr. A. O. Knight, A.M.I.C.E., Engineer to the Council, Town Hall, Hendon, N.W. 4. Deposit £2 2s.

OCTOBER 16.—**Leicester.**—PUMPING STATION.—Erection of an engine and pump house, with caretaker's cottage, in the parish of Desford, for the T.C. Mr. G. T. Edwards, Water Engineer, Waterworks Office, Bowling Green-street, Leicester.

OCTOBER 16.—**Reigate.**—EXTENSIONS.—For extensions to buildings and machinery foundations in connection with the Borough's electricity undertaking. Mr. C. H. Wordingham, C.B.E., M.I.C.E., 7, Victoria-street, London, S.W.1. Deposit £3 3s.

OCTOBER 16.—**Southampton.**—BRIDGE.—Reconstruction of Swan Bridge, North Warnborough, for the C.C. Mr. W. J. Taylor, County Surveyor, The Castle, Winchester. Deposit £1 1s.

OCTOBER 17.—**Nottingham.**—LIBRARY.—Erection of the Northern Branch Reading Room and Lending Library, on Highbury-road, Bulwell, for the T.C. Messrs. Bright & Thomas, architects, 9, St. Peter's Church-walk, Nottingham. Deposit £2.

*OCTOBER 17.—**Reigate.**—PUBLIC CONVENIENCE.—Erection of public conveniences in London-road, Redhill, for Reigate T.C. Borough Surveyor, Municipal-buildings, Reigate.

OCTOBER 17.—**Rotherham.**—PAINTING.—For painting and decorating work at the Market Hall, for the T.C. Borough Engineer, Frederick-street, Rotherham.

OCTOBER 17.—**Walsall.**—HOUSES.—Erection of 20 houses in two blocks of ten in Lord-street; 19 houses in three blocks of six and seven in Green-lane, for the T.C. Mr. John Taylor, Council House, Walsall. Deposit £1.

OCTOBER 18.—**Brighton.**—HOUSES.—Erection of 112 houses on Queen's Park-road site, for the T.C. Messrs. Clayton & Black, T. Garrett & Son, E. Wallis Long, and W. H. Overton, Panel Architects, Brighton. Deposit £1.

OCTOBER 18.—**Cardiff.**—PAINTING.—For painting and tarring the bridges over the Rivers Taff and Ely. Mr. E. W. M. Corbett, Bute Estate Office, Castle-street, Cardiff.

OCTOBER 18.—**Glasgow.**—VERANDAHS, &C.—Erection of new verandahs, gutters and conductors, &c., at Robroyston Auxiliary Smallpox Hospital, for the T.C. Office of Public Works, City Chambers, 64, Cochrane-street, Glasgow.

OCTOBER 18.—**Halifax.**—DEMOLITION.—Demolition of premises on the site of the post office extension, Halifax, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1.

OCTOBER 18.—**Plymouth.**—PAINTING, &C.—For (1) painting at Mount Gold Hospital; (2) painting at Swilly Hospital; ( ) repairs at Mount Gold and Swilly Hospitals, for the T.C. Mr. T. Peirson Frank, Borough Engineer, Municipal Offices, Plymouth.

OCTOBER 18.—**Sunderland.**—EXTENSIONS.—Extensions at Radley Council School, for the T.C. Education Offices, Sunderland. Deposit £1 1s.

OCTOBER 18.—**Wakefield.**—HOUSES.—Erection of four houses for the R.D.C. at Shitlington. Messrs. Massie & Holdsworth, architects, Yorkshire-buildings, Wood-street, Wakefield.

OCTOBER 18.—**Wallsend.**—HOUSES.—Erection of 24 houses, "Class A," for the Corporation. Messrs. Marshall & Tweedy, architects, 54, Grey-street, Newcastle-on-Tyne.

OCTOBER 18.—**Wembley.**—PAINTING.—Internal and external painting and decorations to the Council Offices, for the U.D.C. Mr. Cecil R. W. Chapman, Surveyor, Council Offices, Wembley.

OCTOBER 18.—**York.**—HOUSES.—Erection of 12 houses at the Heworth Housing Estate, for the Corporation. Mr. F. W. Spurr, Architect, Guildhall, York. Deposit £1 1s.

OCTOBER 19.—**Ashford.**—PAINTING.—For redecorating dining-room at West London District Schools. Mr. F. G. Beeching, Clerk, Ashford.

OCTOBER 19.—**Ely.**—HOUSES.—Erection of a limited number of houses, for Cardiff Corporation. The City Architect, City Hall, Cardiff. Deposit £2 2s.

OCTOBER 19.—**Leeds.**—CONVENIENCES.—Erection of public urinals, for the T.C. Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

OCTOBER 19.—**Salford.**—ALTERATIONS.—For structural alterations at Trafford-road Girls' School. Secretary, Education Office, Salford.

OCTOBER 19.—**Sheffield.**—PAINTING.—For painting externally 195 houses at High Wincobank, for the T.C. Mr. F. E. P. Edwards, City Architect, Town Hall, Sheffield.

OCTOBER 19.—**Walthamstow.**—REPAIRS.—For repairs at the Monoux & Pollards Almshouses, for the Trustees of the Walthamstow Parochial Charities. Mr. G. Houghton, Clerk, 195, Hoe-street, Walthamstow, E.

OCTOBER 20.—**Banstead.**—ALTERATIONS.—For alterations and additions at Cuddington Hospital, near Banstead, for the Epsom (Rural), Sutton, Carshalton and Leatherhead Joint Hospital Board. Mr. A. C. Williams, architect, Ashley-road, Epsom.

OCTOBER 20.—**Brierley.**—ADDITIONS.—For additional bedrooms, bathrooms, water closets, &c., at Administrative Block, the Isolation Hospital, Brierley, for the Hemsworth Joint Hospital Board. Mr. W. T. Lynam, Surveyor, Union Offices, Hemsworth. Deposit £1 1s.

OCTOBER 20.—**Burlingham.**—COTTAGE.—Erection of a cottage at Coxhill Farm, Burlingham Estate, for the Norfolk C.C. Mr. Victor Playle, County Land Agent, Shirehouse, Norwich. Deposit £1 1s.

OCTOBER 20.—**Cornwall.**—STATION.—Erection of new buildings at H.M.W.T. Station, Mile End, Lizard, Cornwall, consisting of houses for an officer and two men. Superintending Civil Engineer, H.M. Dockyard, Devonport, and at the Office of the Civil Engineer-in-Chief's Department, Admiralty, London, S.W.1.

OCTOBER 20.—**Hull.**—CONCRETE BASEMENT.—Construction of ferro-concrete basement for filtration plant at East Hull Baths, for the T.C. Mr. F. W. Bricknell, M.Inst.C.E., City Engineer, Guildhall, Hull.

OCTOBER 20.—**Overton and Buckley.**—PAINTING, &C.—For repairs and painting at the Police Stations at Overton and Buckley. Mr. R. G. Whitley, County Architect, County Buildings, Mold.

OCTOBER 21.—**Ebbw Vale.**—HOUSES.—Erection of 28 houses on the Gantre Site, for the U.D.C. Mr. P. I. Davies, Housing Architect, Council Offices, Ebbw Vale. Deposit £5.

OCTOBER 21.—**Penarth and Cardiff.**—REPAIRS, &C.—For (*a*) repairs and renovations, &c., at 3, Paget-place, Penarth, and (*b*) repairs, renovations, &c., at 22, Woodville-road, Cardiff, for the Board of Guardians. The Clerk to the Guardians, Union Offices, 11, Park-place, Cardiff.

OCTOBER 21.—**Sheffield.**—PAINTING.—For the outside painting of the Union Hospital, Firvale, for the Board of Guardians. Mr. Albert E. Booker, Clerk, Union Offices, Westbar, Sheffield.

OCTOBER 21.—**Talybont.**—MEMORIAL.—Erection of Memorial Hall at Talybont. Mr. R. T. Griffith, Secretary, The Mill, Talybont.

OCTOBER 25.—**Llandaff and Dinas Powis.**—BRIDGE REPAIR AND PAINTING.—For reconstructing in reinforced concrete the floor, and for painting the ironwork of the bridge at Pontalybont, near Pendoylan Plans, for the R.D.C. Mr. W. Farrow, Engineer and Surveyor to the Council, 20, Park-place, Cardiff.

OCTOBER 26.—**Argoed.**—VARIOUS WORKS.—Erection of new latrines, forming pathways, &c., at the Infants' Department of the Argoed County School, for the Monmouthshire E.C. Mr. John Bain, F.R.I.B.A., County Hall, Newport.

*OCTOBER 26.—**London, E.**—ALTERATIONS, &C.—Altering and renovating the Relief Offices at Raine-street, E.1, for the Guardians of the Parish of St. George-in-the-East. Mr. R. M. Lochner, Clerk, Guardian's Office.

*OCTOBER 26.—**London, E.**—RENOVATIONS, &C.—Renovations, &c., at the Dispensary and Relief Offices at Cannon Street-road, for the Guardians of the Parish of St. George-in-the-East. Mr. R. M. Lochner, Clerk, Guardians' Office, Raine-street, Old Gravel-lane, E.1.

OCTOBER 27.—**Deptford.**—EXTENSION.—For the construction of an engine house, chimney shaft, boiler setting, drainage, alterations to existing buildings, &c., at Deptford Pumping Station, Brookmill-road, for the Met. Water Board. Mr. Henry E. Stilgoe, M.Inst.C.E., Chief Engineer, New River Head, 173, Rosebery-avenue, E.C.1. Deposit £5.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons	Bricklayers	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Bricklayers' Labourers.	Plasterers' Labourers.
Aberdeen	1/7	1/10½	1/7	1/7½	1/8	1/9	1/7	1/2 to 1/4	
Airdrie	1/8	1/8	1/8	1/8	1/8	1/8	—	1/3	
Alexandria	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2	
Arbroath	1/7	1/7	1/7	1/7	1/7	1/7	1/8	1/1	
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Bathgate	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Blairgowrie	1/7	—	1/7	1/7	1/7	1/7	1/7	—	
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Coatbridge	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Dumfries	1/6	1/6	1/6	1/6	1/6	1/8	1/8	1/2	1/2½ 1/3½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Dunfermline	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Falkirk	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	—	1/1½	
Galashiels	1/6	1/6	1/6	1/6	1/6	1/6	1/8	1/1½	
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3	
Greenock	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3 to 1/3	
Hamilton	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Hawick	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Helensburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Inverness	1/6½	—	1/6	1/7	1/6½	1/7	1/6	1/0 to 1/3	
Kilmarnock	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Kirkcaldy	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Kirkwall	1/5	1/5	1/4	1/7	1/5	1/5	1/4	1/2	
Lanark	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3	
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2	
Motherwell	1/8	1/8	1/8	1/8	1/8	1/8	—	1/3	
Perth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/2	
Stirling	1/8	1/8	1/6	1/8	1/8	1/8	1/9	1/3	
Stirlingshire (Eastern District)	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Wishaw	1/8	1/8	1/8	1/10	1/8	1/8	1/9	1/3	

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 558.

OCTOBER 27.—**Leyton.**—EXTENSION.—For construction of engine house, addition to and alteration to existing buildings, boiler setting, &c., at Lea Bridge Pumping Station, Lea Bridge-road, for the Met. Water Board. Mr. Henry E. Stilgoe, M.Inst.C.E., Chief Engineer, New River Head, 173, Rosebery-avenue, E.C. 1. Deposit £5.

✱OCTOBER 27.—**London, N.**—POST OFFICE ENLARGEMENT.—Enlargement of the Branch Post Office, King's Cross, N., for Commissioners of H.M.O.W. Drawings, &c., from Superintendent of Works, H.M.O.W., Cornwallis-road, Holloway, N. Forms of Tender from the Contracts Branch, H.M.O.W., King Charles-street, S.W.1. Deposit £1 1s.

✱OCTOBER 28.—**Eastleigh.**—POLICE STATION, &c.—Contract No. 1: Erection of a police-station and four cottages. Deposit £5 5s. Contract No. 2: For the construction of ferro-concrete floors, stairs, and flat roofs to the police station (Hennebique system). Deposit £2 2s. Deposits must be made by cheque to Hants C.C. and crossed "Lloyds Bank, Ltd. (Capital & Counties Bank Branch), Winchester." Mr. A. L. Roberts, County Architect, The Castle, Winchester.

OCTOBER 28.—**Irvine.**—HOUSES.—Erection of 18 additional houses, for the T.C. Messrs. David Gillies and A. R. Wilson, Joint Town Clerks, Council Chambers, Irvine. Deposit £1 1s.

OCTOBER 28.—**Prescot.**—SCHOOL.—Erection of a new secondary school of semi-permanent construction for 260 boys, at Prescot, near Liverpool, for the Lancashire E.C. Mr. Henry Littler, County Architect, 16, Ribbleadale-place, Preston. Deposit £2.

NOVEMBER 1.—**Chadwell Heath.**—EXTENSIONS.—For extensions to the Whalebone Council School, for the Essex County Council. The County Architect, Springfield Old Court, Chelmsford. Deposit £1 1s.

✱NOVEMBER 1.—**London, W.**—ALTERATIONS.—Conversion of certain buildings at 5, Woodfield-road, W.2, into residences for the staff, for the Paddington B.G. Mr. H. Percy Adams, F.R.I.B.A., architect, 9, Knightsbridge, S.W.1. Mr. P. Biddulph Hancock, Clerk to the Guardians, 313–319, Harrow-road, W.9. Deposit £3 3s.

✱NOVEMBER 1.—**Maidstone.**—DINING HALL.—Erection of a dining hall (constructed in timber) at the Grammar School for Girls, Sittingbourne-road, Maidstone, for the Governors. Mr. W. N. Robinson, Architect, Sessions House, Maidstone. Deposit £1.

✱NOVEMBER 1.—**Southampton.**—ALTERATIONS.—Conversion of The Mount, Bishopstoke, into a Tuberculosis Sanatorium, for the Southampton C.C. Mr. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s.

✱NOVEMBER 7.—**Chingford.**—COTTAGE.—Cottage at their Refuse Disposal Works, for the U.D.C. Mr. Leonard C. Bowen, Council Offices, Chingford, E.4.

NOVEMBER 30.—**Barcelona.**—EXHIBITION BUILDINGS.—Construction of the Grand Palace of Nations in connection with the Barcelona Exhibition. Oficinas de la Exposicion, Barcelona. Tenders in French or Spanish to be delivered by hand. Copy of specification at Department of Overseas Trade, 35, Old Queen-street, S.W.

NO DATE.—**East Hetton.**—REPAIRS.—For repairs to two houses, for the East Hetton Miners' Lodge. Mr. W. Foster, Secretary, 16, Low-street West, Kelloe.

NO DATE.—**York.**—CHIMNEY.—Erection of brick chimney stack, boiler, &c. Secretary, The Retreat, York.

FURNITURE, MATERIALS, etc.

OCTOBER 14.—**Harrow-on-the-Hill.**—MATERIALS.—Supply of road materials to the U.D.C. Mr. J. Percy Bennetts, Surveyor, Council Offices, Harrow.

OCTOBER 15.—**London.**—CEMENT.—Supply to the High Commissioner for India of Portland cement in casks of 400 lb. each (7,500 casks). Director-General, India Store Department, Branch No. 12, Belvedere-road, Lambeth, S.E.1.

OCTOBER 17.—**Hertford.**—MATERIALS.—Supply of oil, waste, water fittings, brooms, shovels, manhole covers, gully grates, &c., to the T.C. Borough Surveyor, The Castle, Hertford.

OCTOBER 18.—**Durban.**—STONEWARE PIPES.—Supply of one mile of 15 in., 1¼ miles in all of 12 in., 9 in., 8 in., 7 in., 6 in. and 4 in. of best quality stoneware pipes, together with a quantity of specials, for the T.C. Messrs. Webster, Steel & Co., Agents to the Corporation, 5, East India-avenue, Leadenhall-street, E.C.3. Deposit £2 2s.

OCTOBER 31.—**London.**—POLES.—Supply of Swedish, Norwegian, Finnish or Baltic red fir and home-grown larch or Scots fir telegraph poles, to be felled during the winter of 1922–23. Controller, Post Office Stores Department, 17–19, Bedford-street, W.C.2.

ENGINEERING, IRON AND STEEL.

OCTOBER 14.—**Trowbridge.**—FIRE ENGINE.—For a new, motor fire engine, capable of pumping 400 gallons per minute with alternative prices for (*a*) a detachable escape, and (*b*) extension ladders. Mr. G. T. Fletcher, Clerk, Town Hall, Trowbridge.

OCTOBER 16.—**Dublin.**—LATHE.—Supply to the Midland Great Western Railway of Ireland Company of a heavy duty railway wheel lathe. Mr. Percy A. Hay, Secretary, Broadstone Terminus, Dublin.

OCTOBER 17.—**Bethnal Green.**—LAUNDRY MACHINE.—Supply and installation of one four-roll laundry calender at the Institution of the Board of Guardians. Mr. C. Faulkner Jones, 79A, Bishop's-road, Bethnal Green, E.2.

OCTOBER 17.—**Carshalton.**—FENCING.—1,000 lin. yds. wrought-iron railings, gates, hurdles, &c., erected complete at Carshalton, for the U.D.C. Mr. W. W. Gale, Surveyor, District Council Offices, The Square, Carshalton.

OCTOBER 17.—**Edinburgh.**—TRAMWAY MATERIALS.—Supply of trucks, electrical equipment of cars, wheels, and axles, and steel tramway poles. Tramways Manager, 2, St. James-square, Edinburgh.

✱OCTOBER 18.—**Aldershot.**—PORTABLE RAILWAY TRACK.—Hire of about 400 yards of portable railway track, side-tip skips, turntables, &c., for the T.C. Mr. James Neave, Surveyor to the Council, Municipal Buildings, Aldershot.

OCTOBER 19.—**Bournemouth.**—TRAMWAY RAILS.—Supply of 450 tons rails, section B.S.S. No. 4 and 6 tons fishplates, to the T.C. Mr. I. Bulfin. Tramway Offices, Wootton Gardens, Bournemouth. Deposit £2.

OCTOBER 19.—**London.**—BRIDGES.—Supply to the Bengal-Nagpur Railway Company of five-deck span girder bridges, 100 ft. span. Company's Offices, 132, Gresham House, Old Broad-street, E.C.2. Charge £1.

OCTOBER 21.—**Birmingham.**—DESTRUCTOR.—Supply and erection of a new destructor unit at the Montague-street Destructor Works, for the T.C. Mr. James Jackson, Superintendent, Salvage Department, Council House, Birmingham. Deposit £1 1s.

OCTOBER 25.—**Atherstone.**—RESERVOIRS.—Construction of two service tanks having capacities of 75,000 gallons and 63,000 respectively, in solid concrete, for the R.D.C. Mr. H. J. Coleby, Surveyor, 102, Long-street, Atherstone. Deposit £1 1s.

OCTOBER 26.—**London.**—MATERIALS.—Supply of brass sheets and rods and ebonite sheets and rods, for the Government of Australia. Supply Officer, Room 101, Australia House, W.C.

OCTOBER 28.—**Newcastle-on-Tyne.**—DREDGING PLANT.—Supply to the Tyne Improvement Commission of dredging plant. Mr. J. McDonald Manson, General Manager, Tyne Improvement Commission Offices, Bewick-street, Newcastle-upon-Tyne. Deposit £5.

OCTOBER 30.—**Hull.**—BRIDGE.—For a railway bridge in connection with Chanterlands-avenue extension, for the T.C. Mr. F. W. Bricknell, City Engineer, Guildhall, Hull. Deposit £1.

NOVEMBER 28.—**New Zealand.**—CRANE.—Supply to the Auckland Harbour Board, New Zealand, of one 1-ton fixed pedestal crane, for King's Wharf. Messrs. W. and A. McArthur, Ltd., 18-19, Silk-street, Cripplegate, E.C.2. Deposit £1 1s.

NOVEMBER 28.—**New Zealand.**—PLATE GIRDERS.—Supply of plate girders to the Public Works Department, for the Orepuki-Waiaun Railway. Department of Overseas Trade, 35, Old Queen-street, S.W.

DECEMBER 12.—**New Zealand.**—PLATE GIRDERS.—Supply to the Public Works Department of plate girders, for the Lawrence-Roxburgh and the Taneatue Railways. Department of Overseas Trade, 35, Old Queen-street, S.W.

DECEMBER 18.—**Victoria.**—COAL HANDLING PLANT.—For coal handling plant for the Morwell Power scheme, for the Victorian State Electricity Commission. Agent-General for Victoria, Melbourne-place, Strand, W.C.2. Deposit £2 2s.

DECEMBER 31.—**Argentine.**—RAILWAY.—Construction and equipment of 650 and 185 kilometres of one metre gauge railway as well as for the financing of the same, for the State Railways of the Province of Buenos Aires (Argentine Republic). Argentine Legation, Aldford House, 26, Park-lane, W.1.

JANUARY 31, 1923.—**Australia.**—ELECTRICAL PLANT.—Supply of steam turbine and other plant to the Morwell Power Station, for the State Electricity Commission. Agent-General for Victoria, Melbourne-place, Strand, W.C. Deposit £2 2s.

FEBRUARY 1.—**Auckland.**—ELECTRIC CRANES.—For the supply of twelve five-ton (alternatively three-ton) semi-portal balanced jib electric quay cranes, four five-ton (alternatively three-ton) balanced jib electric roof cranes, and six one-ton electric monorail cranes, for Auckland Harbour Board. Messrs. W. & A. McArthur, Ltd., 18-19, Silk-street, Cripplegate, London, E.C. 2. Deposit £2 2s.

ROAD, SANITARY, AND WATER WORKS.

OCTOBER 14.—**Durham.**—ROADS.—(1) Widening of highway at Broompark Village, (2) making up roadway in Keeper-lane, for the R.D.C. Surveyor, 38, Sadler-street, Durham. Deposit, 10s. each contract.

OCTOBER 14.—**Margate.**—WATERWORKS.—For sinking of shafts and extending adits of about 1,000 yards in connection with the Corporation water supply at Wingham. Mr. E. A. Borg, 13, Grosvenor-place, Westminster, S.W.

OCTOBER 16.—**Argoed (Mon).**—VARIOUS WORKS.—For erecting new latrines, forming pathways, and other work at the Argoed Infants' School, for the Monmouthshire Education Committee. Mr. John Bain, F.R.I.B.A., County Hall, Newport.

OCTOBER 16.—**Crowmarsh.**—WATER SUPPLY.—For a water-supply scheme for the Parish of Newington, for the R.D.C. Mr. P. C. A. Slade, Clerk, 7, St. Martin-street, Wallingford.

OCTOBER 16.—**London.**—SCAVENGING.—Removal and disposal of slop and refuse from, and the supply and delivery of hoggin and sand to Blackwall and Rotherhithe Tunnels, during one year, for the L.C.C. Mr. G. W. Humphreys, Old County Hall Spring-gardens, S.W.1.

OCTOBER 17.—**Leytonstone.**—ASPHALTING, &C.—For certain asphalting and tar-paving work at the Schools in High-road, Leytonstone, for the Bethnal Green B.G. Mr. C. Faulkner Jones, Clerk, 79A, Bishop's-road, Bethnal-green, E.2.

OCTOBER 17.—**Sheerness.**—ROADS, &C.—Construction of roads and paths at the Housing Scheme, Sheerness-on-Sea, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1.

OCTOBER 17.—**West Ashford.**—ROLLING.—For steam rolling in the district, for the R.D.C. Mr. Alfred Sims, Surveyor, Tufton Hall, Ashford.

OCTOBER 18.—**Birmingham.**—SEWERS.—Culverting in of about 172 yds. of the Washwood Heath brook with 39 in. concrete tubes, for the T.C. Mr. Herbert H. Humphries, City Engineer, The Council House, Birmingham. Deposit £2.

OCTOBER 18.—**Glamorganshire.**—ROAD WORKS, &C.—The Glamorganshire County Council invites tenders for (*a*) Cowbridge and Llantwit Major main road, improvement near Marlborough Grange, Cowbridge, (*b*) Cardiff and Cowbridge main road, widening between St. Nicholas and Bonvilstone, (*c*) Neath and Glyn Neath main road, reconstruction of Llina Bridge and improvement of approaches. For (*a*) and (*b*), Police Station, Cowbridge, and for contract (*c*) from Police Station, Neath.

OCTOBER 18.—**Wembley.**—ROADS.—Making-up Park-lane, Wembley Park-drive and Wembley Hill-road, for the U.D.C. Mr. Cecil R. W. Chapman, Council Offices, High-road, Wembley. Deposit £2 2s.

OCTOBER 21.—**Margate.**—SEWAGE WORKS.—Construction of sewage outfall works, building, screens, pump, for the T.C. Mr. Ernest A. Borg, Borough Engineer, 13, Grosvenor-place, Margate.

OCTOBER 21.—**Newport (Mon).**—WATERWORKS.—Laying and jointing of about 28 miles of cast-iron pipes, construction of a service reservoir, bridges, valve houses, and other works, for the T.C. Messrs. G. H. Hill & Sons (Westminster), 3, Victoria-street, Westminster. Deposit £5.

OCTOBER 21.—**Stevenage.**—BOREHOLE.—For sinking a borehole at the bottom of an existing well and supplying a pump, for the U.D.C. Mr. W. O. Times, Clerk, Council Offices, Stevenage. Deposit £2 2s.

OCTOBER 23.—**Alnwick.**—DRAINAGE.—For laying sanitary pipes, &c., South Togston, for the R.D.C. Mr. T. Henderson, Togston-crescent.

OCTOBER 23.—**Mitcham.**—ROADS.—For works of road improvement in Church-road and Christchurch-road, for the U.D.C. Surveyor, Broadway House, London-road, Lower Mitcham.

OCTOBER 23.—**Sheerness.**—SEWERAGE WORK.—Construction of about 1,640 lineal yards of stoneware pipe sewers, &c., for the U.D.C. Mr. Vincent H. Stallon, Clerk, Sheerness. Deposit £5.

OCTOBER 24.—**Congleton.**—SEWER.—Laying a 9 in. sewer at Wheelock Heath, approximately 230 yards, for the R.D.C. Mr. H. Ferrand, Clerk, Crewe-road, Sandbach.

OCTOBER 27.—**Durham.**—CULVERT.—Lining Chester Dene culvert with brickwork, for the C.C. Mr. A. E. Brookes, County Engineer, Durham.

OCTOBER 28.—**Paddington.**—ROADS.—For paving the carriageway and footways of Biddulph-road (between Elgin-avenue and Lauderdale-road), for the B.C. Borough Surveyor, Town Hall, Paddington, W.2. Deposit £1 1s.

OCTOBER 30.—**Newark.**—SEWAGE DISPOSAL.—For sewage disposal works, for the T.C. Messrs. W. H. Radford & Son, engineers, Albion-chambers, King-street, Nottingham. Deposit £3 3s.

OCTOBER 31.—**Doncaster.**—SEWAGE SCHEME.—Construction of storm overflow chambers, screening chambers and screen house, detritus tanks, new pumping station substructure, storm water tanks, sludge lagoons, culverts, river retaining walls, 21 in. C.I. rising main, &c., for the T.C. Mr. F. Oscar Kirby, Borough Engineer, 2, Priory-place, Doncaster. Deposit £5 5s.

OCTOBER 31.—**Doncaster.**—SEWAGE WORKS.—Settling tanks, percolating filters, and supplying media, humus tanks, sludge lagoons, effluent channels and sewer, sludge mains, rising mains, roads, &c., for the T.C. Mr. F. Oscar Kirby, Borough Engineer, 2, Priory-place, Doncaster. Deposit £5 5s.

Competitions.

(*See Competition News, page* 526.)

Auction Sales, Tenders, etc.

OCTOBER 16.—**Westminster.**—Messrs. Veryard & Yates, F.A.I., will sell, without reserve, hut sections, timber and building materials, at Tufton-street, at 1.30 p.m. Auctioneers, 365, Norwood-road, S.E.27.

OCTOBER 17.—**London, N.W.**—Messrs. Allsop & Co. will sell, by direction of the Disposal Board, at Park Royal Camp, Willesden, sectional huts, quantity of miscellaneous timber, G.S. wagons, travelling kitchens, office furniture, &c. Auctioneers, 141, Park-road, N.W.8, and 15, Soho-square, W.1.

✱OCTOBER 24.—**Langport, Somerset.**—Messrs. F. L. Hunt & Son will sell by auction, at the Langport Arms Hotel, at 3 p.m., extensive builder's and contractor's premises, &c., at Langport, Somerset, on the main line, G.W.R. Auctioneers, Langport, Somerset.

✱OCTOBER 25.—**London.**—Messrs. St. Quintin, Son & Stanley will offer for letting by auction on building lease for 99 years, at Winchester House, E.C., at 2.30 p.m., building site now occupied by premises Nos. 200–203, Tottenham Court-road, having frontage of about 83 ft. 6 in. and a total ground area of about 5,000 sq. ft. Auctioneers, 50, Threadneedle-street, E.C.2.

✱OCTOBER 25.—**Keston, Kent.**—Messrs. Baxter, Payne & Lepper will sell at the London Auction Mart, 155, Queen Victoria-street, at 2.30 p.m., by order of the Rt. Hon. Earl Derby, K.G., the Keston Lodge Estate, comprising freehold country residence, &c. Auctioneers, Bromley, Beckenham, and Orpington, Kent; and 28-30, Lime-street, E.C.3.

Public Appointments.

OCTOBER 14.—**Yorkshire.**—BUILDING INSPECTOR.—Building inspector wanted for large Public body in Yorkshire. Leeds Advertising Agency, City-square, Leeds.

✱OCTOBER 23.—**Margate.**—TEMPORARY ARCHITECTURAL ASSISTANT.—Temporary Architectural Assistant. Mr. Ernest A. Borg, Borough Engineer and Surveyor, 13, Grosvenor-place, Margate.

✱OCTOBER 25.—**Beckenham.**—CARETAKER.—Caretaker of housing estate, for the U.D.C. Mr. John A. Angell, Surveyor, Council Offices, Bromley-road, Beckenham.

OCTOBER.—**India.**—Assistant inspector of stores required by the High Commissioner for India. Director-General, India Store Department, Belvedere-road, Lambeth, S.E.1. (Quote Ref. S.5967/1922.)

PROPOSED NEW BUILDINGS & OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ALLOA.—A report on a scheme for the erection of a huge bridge over the River Forth at Alloa (Stirlingshire) has been approved by the County Council. The estimated outlay is £171,000.

AUDENSHAW.—Plans passed by U.D.C.: Additions, Delta Works, for Mr. Austin Hopkinson, M.P.; alterations and additions, Canal Cottage, Slate-lane, for Mr Austin Hopkinson, M.P.; four houses, Droyisden-road, for Mr. S. Hadfield: shed to transformer station, Stamford-road, for the Manchester Corporation.

BARCELONA.—The Commercial Secretary to His Majesty's Embassy at Madrid reports that tenders are invited by the Barcelona Exhibition authorities for the construction of the Grand Palace of Nations, which is to be built for the Barcelona Exhibition. The contract includes the necessary earth works, ordinary masonry, steel work, reinforced concrete, artificial-stone work, cut stone and marble work, joinery, metal work, &c., water and drainage, brass work, and plaster and paint work. A copy of the specification (in Spanish) can be seen by United Kingdom firms at the Department of Overseas Trade (Room 50), and a copy will be sent on loan, in order of application, to United Kingdom firms domiciled outside London who are unable conveniently to arrange for its inspection at these offices.

BARKING.—Plans passed by U.D.C.: Shop, Movers-lane, for Glenny's Brewery, Ltd.; shop, Movers-lane, for Mr. W. A. Barker; alterations and additions to the "Fishing Smack" public house, for Ind, Coope & Co., Ltd.; alterations and additions to the Liberal Club.

BARNSLEY.—The plans have been approved for the erection of slaughter houses, pining sheds, &c., Queen's-road, Barnsley. The architect is Mr. P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street, Barnsley.

BATH.—Plans approved by T.C.: Garage, "Brislington View," Wells-road; bungalow, Wells-road; lock-up garage, St. John's-road; shops, &c., Lower Bristol-road; roofing over yard, Lower Bristol-road; billiard room, rear of 15, Queen-square; showrooms, garage, &c., Barton-street; chauffeur's rooms, "Beechfield," Richmond-road; alterations, 3, Dorchester-street; alterations, 35 & 36, Stall-street; greenhouse, 36, King Edward-road; alterations to Masonic Hall, Orchard-street; alterations to "Jubilee" Inn, Whiteway-road; pair of wooden bungalows, Padley Bottom; business premises, 128, Coronation-avenue; conversion into four flats, 10, Grosvenor-place; conversion into nine flats, 41, 42 & 43, Pulteney-street; alterations, Broad-street; factory, Monksdale-road; alterations, 35 & 36, Stall-street; addition to timber sheds, Lower Bristol-road; drainage, bungalow, Hampton-row; conversion of "Masons' Arms" P.H. into three self-contained cottages, Ferry-lane.

BATLEY.—Plans for the extension of Batley Hospital, as prepared by Mr. A. W. Hanstock, J.P., have been approved by the General Works Committee.

BELFORD.—Plans passed by R.D.C.: Two bungalows at "St. Aidan's," Seahouses, for Mr. T. B. Gregory; cottage at North Sunderland, for Mr. J. McLean; the conversion into two cottages of a workshop at Tyneley by Messrs. Elliot Bros.; two cottages at Seahouses, for Mr. Davidson.

BENTLEY.—The Ministry of Health has given permission to the U.D.C. to borrow £15,000 for housing and £2,250 for street improvement and the acquiring of land.

BIRKENHEAD.—Plans passed by T.C.: Garage, Cavendish-street; garage, Ashburton-road; garage, 16, North-road; addition, 164, Grange-road; garage, 43, Kenyon-terrace, Devonshire-road; four lock-up shops and garage, Laird-street; four dwelling-houses, Ravenswood-avenue, and six houses and shop on adjoining land fronting Old Chester-road, Dacre-hill.

BOLTON.—Plans passed by T.C.: Mr. James Arrowsmith, pair houses, Andrew-lane; Mr. Akky Bamber, house, Sweetloves-lane; Bank Top Social Club, tennis pavilion, off Ashworth-lane; Messrs. Wm. Gornall & Son, Ltd., house, Greenmount-lane; Messrs. Wm. Gornall & Son, Ltd., pair houses, Carlton-road; Bolton Cinema, Ltd. (1922), picture theatre, Deane-road, Bolton Cinema, Ltd. (1922), picture theatre, St. Helens-road; Messrs. J. Brown & Co., Ltd., extensions to works, Starmount Print Works; W. Gornall & Son, 10 houses, Bury-road, Crompton Fold Estate; Public Health Committee, ladies' conveniences, Old Hall-street North; Mr. T. H. Monk, alteration to premises, 6 & 8, Victory-street; Musgrave Spinning Co., extension to No. 1 Mill, Chorley Old-road; Mr. W. Z Seddon, house, Dijon-street.

BOURNEMOUTH.—Plans passed by T.C.: Houses and shops, Charminster-road, Mr. H. J. Roffey; additions, "Meyrick Mansions," Hinton-road, Mr. W. Clayton Lloyd; block of shops and flats, corner St. Catherine's and Belle Vue-roads, Mr. T. F. Brewster; alterations and additions, 284, Christchurch-road, Mr. G. S. Samways; additions, 9, The Parade, Belle Vue-road, The London Joint City and Midland Bank; schoolroom, Wootton-gardens, The Hebrew Congregation; additions, Royal Bath Hotel, Bath-road, the Company of the Royal Bath Hotel; stores and loading station, Christchurch-road, Messrs. Newlands & Co.; garage and stores, Christchurch-road, Mr F. N. Corben; additions, rear of 264, Christchurch-road, Mr. H. J. Calloway; garage, Pine-road, Mr. J. Francis; house and garage, Kinross-road, Mr. A. R. Mangin; house, Beechwood-avenue, Rev. W. Gilchrist; four houses, Evelyn-road, Mr. H. J. Lawford; two flats, King's-road, Mr. G. Wilcox; two houses, St. Alban's-avenue, Mr. A. Adams; house, Stourcliffe-avenue, Mr. Chamberlain; six bungalows, Charminster-avenue, Messrs. E. M. Drewitt & Co.; six bungalows, Solent and Harbour-roads, Mr. J. Drewitt; house and garage, Seafield-road, Mr. A. H. Jackson; house and garage, Belle Vue-road, Mr. F. W. Chapman; conversion into four flats, "Denbigh Lodge," Surrey-road, Mrs. M. H. Bland; bungalow, Charminster-road, Mr. H. Welstead; house, The Avenue, Redhill-park, Mr. H. C. Barnes; house, Seaward-avenue, Miss M. Dixon; alterations, Westbourne Congregational Church, Poole-road, the Deacons; alterations, "Bodorgan Manor," Bodorgan-road, Mrs. C. Gresham; house, King George-avenue, Mr. J. Collingbourne; house, Fenton-road, Messrs. Golton Bros.; house and shop, corner Stanfield and Withermoor-roads, Mr. S. Harris; two houses, Withermoor-road, Mr. S. Harris; house, Stirling-road, Mr. G. Cowen; house, Arcadia-avenue, Mr. W. R. Lock; house, Soberton-road, Mr. W. Hayward; four houses, Pine-road, Messrs. Jenkins & Sons, Ltd.; house, Queen Mary-avenue, Mr. H. Mitchell; bungalow, Charminster-avenue, Mr. E. J. Cook; house, King Edward-avenue, Mr. W. W. Baker; house, Highfield-road, Mr. Trowbridge; house and garage, Bryanstone-road, Mr. R. J. M. Nabney; house and shop, Kimberley-road, Mr. J. C. Small; two houses, Queen's Park-avenue, Mr. R. Holly; conversion into three flats, "Eltham," Westbourne Park-road, Mrs. F. E. Mills; house, Charminster-avenue, Mr. H. Osmond; house, East-avenue, Messrs. G. E. & W. R. J. Lambert; bakehouse and store, rear of 57 & 59, Nortoft-road, Messrs. Cotton Bros.; additions, "Babies' Home," Foxholes-road, the Bournemouth Free Church Council; house and garage, Chessel-avenue, Mr. S. Vickess; house, Penrith-road, Mr. H. J. B. Jeffery; house, Penrith-road, Mr. G. W. Jackson; house and garage, Queen's Park-avenue, Mr. W. Hayward; house, East-avenue, Messrs. J. & A. Steane; two houses and garages, Mayfield-road, Mr. H. Barnes; house, Arnewood-road, Mrs. Sawyer; house, Talbot-road, Mrs. G. W. Jackson; house, Methuen-road, Messrs. Ellison, Son & Dale; house, Holdenhurst-road, Mr. J. J. Elkins; house, Holdenhurst-road, Mr. J. J. Elkins; house, Prince of Wales-road, Mr. A. P. Ready; house, corner Frederica and Firs Glen-roads, Mr. Pike; house and shop, Kimberley-road, Mr. Burt; four houses, Hillbrow-road, Mr. A. H. Elcock; bungalow, Charminster-avenue, Mr. E. J. Cook; house, corner Queen's Park South-drive and Richmond Park-road, Mr. W. T. J. Stacey; house, Queen Mary-avenue, Messrs. Way & Marshall; two houses, Stourvale-road, Mr. W. Lock; house and workshop, Wheaton-road, Mr. H. Yates; house, Seafield-road, Mr. A. H. Jackson; house, Stourcliffe-avenue, Mr. W. S. Hoather; house, Soberton-road, Mr. C. V. Miller.

BRIDGEND.—The U.D.C. has decided to apply for permission to erect a further 100 houses on the Coity site.

BRIDLINGTON.—Plans passed by R.D.C.: House, Cardigan-road, Bridlington, for Mr. E. Grey; bungalow, Crofts-hill, Flamborough, for Mr. J. Major.

BUNTON.—Plans passed by T.C.:—Conversion of 42, West-road into three flats, for Mr. W. F. Pollitt; motor garage at "Cheethams Close," Park-road, for Mrs. Wadsworth; house, Macclesfield-road, for Mr. J. Boon; motor garage at "Wyecroft," Macclesfield-road, for Mr. James Salt; house, Green-lane, for Mr. J. E. Shirt.

CHESTERFIELD.—Plans passed by T.C.: Two houses and shops, corner of Hunloke-avenue and Boythorpe-road, for Mr. A. Heath; additions and alterations to premises in New-street between Knifesmith-gate and Glumman-gate, for Messrs. Hadfield & Sons, Ltd.; four houses, Summerfield-road, for Mr. A. Heath; two houses, Walton-road, for Mr. A. Heath; bungalow, New Bridge-lane, Old Whittington, for Mr. G. H. Ward; bungalow, Oak Field-avenue, Chatsworth-road, for Mr. W. Jenner; alterations to shop premises, Chatsworth-road, for Messrs. Haag & Sons; four pairs of houses in Storforth-lane, for Messrs. Heath & Co.

COVENTRY.—Plans passed by T.C.: Extensions to works, Walsgrave-road, for Hancock & Warman; twelve houses, Winifred-avenue, for Mr. W. Morris; two houses, Burlington-road, for Mr. J. Jeffs; house, Warwick-avenue, for Mr. W. A. Linford; extensions to works, Moor-street, for the Calso Hood Co., Ltd.; house and store, Jesmond-road, for Mr. F. H. Jelley; twelve houses, Melbourne-road, for Mr. T. Seal; extension of works, Pridmore-road and Narrow-lane, for Courtaulds, Ltd.; additions to factory, Stoke-row, for the Midland Light Bodies, Ltd.; extensions to factory, Shackleton-road, for Pattison & Hoborn; extension to factory, Gas-street, for Mr. T. Hancox.

DARLINGTON.—Further developments are foreshadowed on the River Tees, in addition to the large land reclamation scheme which the Commissioners have in hand at the present time. The Commission has appointed Mr. Charles Meik, consulting engineer, to advise it in its negotiations with the North-Eastern Railway Company as to the best means of meeting the requirements of the river, either by wet docks or deep water quays.

DEWSBURY.—Plans passed by T.C.:—Mr. H. Wilkinson, lay-out of new streets and building sites, Staincliffe; Yorkshire Electric Power Co., switch gallery and boiler-house, Thornhill Power Station; Pelican Engineering Co., petrol storage plant, Scout Hill; Northern Theatres Co., Ltd., canopy to stalls entrance, Theatre Royal; Mr. F. Dwyer, motor garage, Oxford-road.

DRAYCOTT-IN-THE-CLAY.—Plans of a church at Draycott have been passed by the R.D.C.

EASTBOURNE.—The T.C. has decided to go forward with development schemes, despite the fact that the Ministry of Health declined to issue a certificate sanctioning loans, on the ground that the volume of unemployment was not great enough. The Council will proceed with the extension of the sea wall at Holywell, and the erection of additional bathing chalets, at a cost of £13,000, and chance the Ministry's sanction.

EAST HAM.—The rebuilding and enlargement of back addition, 6, High-street North, is for Messrs. Edwards & Newman, and not for Mr. W. E. Jefferies, who is the architect.

EDINBURGH.—At the last sitting of the Dean of Guild Court, forty-six petitions were considered. Among the warrants granted were the following:—Edinburgh Corporation, reconstruction of power station at Henderson-row to be adapted for a garage; reconstruction of Dewar-place power station for central administration of electricity department; and erection of the Haig Statue at the Castle-esplanade; Edinburgh Royal Asylum, erection of shelters, 10, Abbotsford-park; Mr. William Yale, erection of bungalow, Davidson's Mains; Messrs. Timson, Ltd., conversion of dining-room of Liberal Club, Princes-street, into shop premises, and alteration to premises at 110 & 38, Leith-street.

EDINBURGH.—Applications granted by the Dean of Guild Court:—Joppa Building Society, Ltd., house at Barnton-grove; Mr. John Blair, byre for 30 cows at Moredun Mill, Greenend; Messrs. J. & J. Todd & Sons, garage at Elbe-street, Leith; Messrs. Hope Bros., Ltd., shop and front at 99A, Princes-street; Mr. J. Macintosh, bungalow at Charterhall-road; Mr. Alexander Sinclair, villa at 52, St. Alban's-road into two houses.

GLASGOW.—The large building site situated at the corner of Wellington and Waterloo-streets has been acquired by a Glasgow syndicate for the erection of a substantial hotel on modern lines. It is understood the architect is Mr. W. Inglis, I.A.

GOWER.—The Ministry of Health has conducted an inquiry into the proposal of the Gower (Glam) R.D.C. to borrow £5,000 for a water supply scheme for the villages of Murton and Bishopston.

GRANTHAM.—Mr. J. C. Dawes, O.B.E., an inspector appointed by the Ministry of Health, has held an inquiry in reference to an application by the T.C. for sanction to borrow £5,000 for the provision of a new refuse destructor.

HAYWARDS HEATH.—It is hoped to commence the building of the new Roman Catholic church, of which Mr. F. A. Walters is architect, early next year.

HAZELL GROVE.—Plans passed by U.D.C.:—Bungalow, Offerton-road, for Mrs. Varian; four houses, Handley-road, for Messrs. Eyre & Blakey; house, Ladythorn-crescent, Bramhall, for Major Wallis; club house, Manor Park-road, for the Bramhall Park Golf Club; bungalow, Tenement-lane, for Mr. G. W. Walmsley; shop front to 221, London-road, for Mr. J. Crosby; two houses, To kington-road, for Messrs. Bancroft & Pixton; four houses, Grove-street, for Mr. G. Oldham; plan and section of new road extension, Handley-road, for Messrs. Eyre & Blakey; Venables, and others.

HORNSEY.—Plans passed by B.C.: Twenty houses in Farrar-road, submitted by Mr. John Farrar; four in Cascade-avenue, Mr. W. B. Collins; three in Greenham-road, Messrs. Cude & Woodward; one each in View-road, Messrs. Statford Bros., Greenham-road, Mr Dunscombe, and Hampstead-lane, Mr. P. W. Lovell; and for the conversion of No. 215, Archway-road into flats.

KEIGHLEY.—Plans passed by T.C.: Simon Mitchell, house, Hill Top-road; V. Farrand & Co., Ltd., garage, Bradford-road; F. Paley, house, Thwaites Brow-road; and Shell-Mex, Ltd., petrol depot, Valley-road.

LANCASTER.—Plans passed by T.C.: Oil tank and pumphouse, &c., Ashton-road, for the British Petroleum Co., Ltd.; motor house, "Hala Cote," Haverbreaks, for Mr. J. K. Booth; detached bungalow, Hall's Estate, Scotforth-road, for Mr. A. Barrowclough; addition to scullery, 96, Dale-street, for Mr. R. Jackson; detached bungalow, Haverbreaks Estate, for Mr. T. W. Huntington; detached bungalow, Hall's Estate, Scotforth, for Mr. R. S. Pickersgill; motor garage, St. George's Quay, for Mr. W. Wilson.

LEATHERHEAD.—Plans passed by U.D.C.: House at Linden Pit-path, for Miss D. Fry; house in Linden-road, for Mr. O. Foxton; additions to Tyrrell's Wood, for Major H. Keswick.

LIVERPOOL.—The Finance Committee, subject to confirmation by the City Council, has accepted an offer by Woolworth's to take a 999 years' lease of St. Peter's Church site, Liverpool. This is said to be the most valuable commercial site in the provinces, and Messrs. Woolworth offer a ground rent of £12,730 for an area of a little over 5,000 square yards. The firm will erect on the site their largest store outside America.

LONDON (BERMONDSEY).—Plans passed by B.C.:—Petrol service station, Tower Bridge-road, for F. & H. F. Higgs, for the Anglo-American Oil Co.; roof over yard, 79, Maltby-street, for W. Beeson & Son; building, Mill-street, for the L.C.C., for D. J. Moss.

LONDON (GREENWICH).—Drainage plans passed by B.C.: Mr. W. Layson, at 64 to 72, Westcombe-hill; Greenwich Borough Council, at 1 to 5, Church-passage, and 3 Church-street, Greenwich; Mr. C. G. Miller, at "Guildford Arms" public-house, Guildford-road; Edwards Construction Co., Ltd., at 41, Kirkside-road; Messrs. Tamsett & Co., at "Springfield," Charlton-road; Mr. W. H. Hall, at 8 and 9, Bennett-street; Messrs. J. W. Falkner & Sons, at corner of Westbrook-road and Kidbrook-grove; Messrs. Roberts (Birmingham), Ltd., at 80 houses on Site No. 4, Pound-park (Greenwich Borough Council's Housing Scheme); Messrs. Roberts (Birmingham), Ltd., at cemetery lodge at Shooters-hill cemetery; Messrs. Wright & Handisyde, at 77, Beaconsfield-road; Messrs. William Harbrow, Ltd., at 96, Shooters-hill-road; Mr. A. Griffin, at 73 and 75, Pelton-road.

LONDON (HACKNEY).—Plans passed by B.C.:—Sanitary work at 130, King Edward-road, for Mr. S. Wiener; workshop, Mount Pleasant-hill, for Messrs. G. Munday & Sons; addition, 359, Mare-street, for

* See also our List of Contracts, Competitions, etc.

J. Lyons & Co.; garage, 8, Culford-mews, for Mr. C. D. Gabell; addition, Peerless Laundry, Meads-place, for Mr. A. E. Symes.

LONDON (PADDINGTON).—Outpatients' department and mortuary, Lock Hospital, Harrow-road.

LONDON (SOUTHWARK).—Drainage plans passed by B.C.: Messrs. H. J. Searle & Son, Ltd., to 90, Old Kent-road; Mr. F. Fielding, to 12, Avenue-road; the Governors, Guy's Hospital, to Medical School, Guy's Hospital; Messrs. Wright, Layman & Umney, to warehouse, Skin Market-place; Messrs. Waygood-Otis, Ltd., to premises, Falmouth-road; Improved Wood Paving Co., Ltd., to 132–132A, Great Suffolk-street.

MANCHESTER.—Plans passed by T.C.: Lock-up shop, West-street and Barrington-street, Clayton; alterations to the Wheat Sheaf Hotel, High-street; Sunday-school, Cleveland-road, Crumpsall; offices, workshop, stores and garages, New Yord-street, Chorlton-upon-Medlock; addition to laboratory, Shirley Institute, Kingston-road, Didsbury; two houses, Grangethorpe-drive, Burnage; dwelling-house, Parkfield-road and Pine-road, Didsbury; store and showrooms, Hesketh-avenue and Barlow Moor-road, Didsbury; office, w.c., and store, Ardwick Green South and Brunswick-street, Ardwick; two houses, Hawarden-avenue, Whalley Range, Withington; alterations and additions to Royal Central Hotel, Windmill-street, Museum-street and South-street; six houses, Egerton-road, Chorlton-cum-Hardy; five houses, Sandy-lane, Chorlton-cum-Hardy.

MARLOW.—Mr. H. T. Calvert, inspector to the Ministry of Health, has held an inquiry with reference to the proposal of the U.D.C. to borrow money for the purpose of the provision of a new sewage farm and a motor sewage pump.

MERTHYR TYDFIL.—The Public Works Committee has decided to beautify the land adjoining old St. David's School, and to carry out painting, &c.

MONMOUTHSHIRE.—The County Council have formulated a scheme for the widening of the Newport-Cardiff-road, from a point near the Newport Borough boundary to Castleton, at an estimated cost of £100,000. The widening will later be extended to the Glamorgan boundary. To the initial scheme the Newport Borough Council will be asked to contribute £12,500, and it is hoped the Ministry of Transport will contribute largely to the remaining cost.

NEATH.—A deputation from the Guardians attended the Borough Council meeting urging the Council to undertake works that would absorb some of the unemployed. In reply, it was pointed out that Port Talbot Council were to embark on schemes entailing expenditure of £72,000, whilst at Glyncorrwg £33,000 was to be spent, and the Neath R.D.C. proposed to spend £87,000. In addition to these works, sanction to spend £4,000 on Upper Cwmla-road has been received by the Neath Borough Council.

NORTHAMPTON.—Plans passed by T.C.: House, Thursby-road, for Mr. Lyons; two cottages, Cattle Market-road, for Messrs. P. Phipps & Co., Ltd.; house, Park-avenue, for Mr. J. G. Cowling; motor garage, 257, Wellingborough-road, for Mr. Stringer; two houses, Sandringham-road, for Mr. A. Harlow; three houses, Towcester-road, for Messrs. Underwood & Weston; four houses, Delapre-crescent Estate, Far Cotton, for Mr. E. H. Tibbs; lock-up garages, Derngate, for Derngate Motor Co.; transformer substation, King Edward-road, for Northampton Electric Light Co., Ltd.; two houses, Cedar-road, for Mr. R. A. Rainbow; house and shop, Harborough-road, for Mr. B. Whittle; premises and reinstatement of building after fire, St. Andrew's-road and Monks Pond-street, for Messrs. Pettit & Sons, Ltd.; four houses, Delapre-crescent Estate, Far Cotton, for Mr. E. H. Tibbs; additions and alterations to premises, Abington-street, for the Y.M.C.A.; garage, 53, St. Leonard's-road, for Mr. Harrold; office, 37, St. Giles-street, for Northampton Church Charity Trustees; house, Weston-road, for Mr. H. W. Eaden; house, Towcester-road, for Mr. D. Hodges; store, Chaucer-street, for the Goodliffe Manufacturing Co.; factory, Roe-road, for Mr. W. King; bank premises, George-row, for Lloyds Bank, Ltd.; house and shop, 7, Birchfield-road, for Miss Fisher; house, Christchurch-road, for Mr. W. H. Foster.

PENARTH.—The U.D.C. has instructed the Surveyor to report on suitable sites for a housing scheme. The Council received an estimate from Surveyor that proposed underground cloak rooms would cost about £3,000. The scheme will be further discussed.

PLYMOUTH.—Plans passed by T.C.: Mr. Moule, dwelling-house and shop, Wolseley-road, Ford; Mr. R. Bate, dwelling-house and shop, Wolseley-road, Ford; Mr. W. H. Bennett, cottage, Swilly; Mr. A. Northcott, dwelling-house, Ocean-street; St. Andrew's Masonic Lodge, addition, Mount Edgcumbe Hall, George-place, Stonehouse.

RIPON.—Plans passed by T.C.: Two cottages, Greaves-court, for the Natco Co.

RUTHIN.—Plans of improvements at "Plas Siors," Llandyrnog, and at the Church Institute, Nantglyn, have been approved by the R.D.C.

SHEFFIELD.—Plans have been prepared for the erection of a new bungalow at Abbey-lane, Sheffield. The architect is Mr. Arthur Whitaker, 18, Bank-street, Sheffield.

SOUTHAMPTON.—The Parliamentary Committee of the Corporation recommends the Council to sell the Millbrook site to the Ford Motor Co., without reservation. The Corporation had wanted a written guarantee that a factory would be built on the land, but decided to be content with a verbal assurance.

SOUTH SHIELDS.—Plans passed by T.C.: Messrs. Smiths Dock Co., internal alterations and new lavatory accommodation at Old Seamen's Mission Building, Mill Dam; Anglo-American Oil Co., temporary building in Railway Co.'s Goods Yard, Station-road; Mr. Howard Hill, for Messrs. Arnold & Atkinson, two semi-detached villas, St. Peter's-avenue, Harton; Mr. F. W. Newby, for T. Lawrenson, bungalow, corner of St. Peter's-avenue; Messrs. T. A. Page & Son, for Mr. M. Wann, villa residence, Beach-road; Messrs. Smiths Dock Co., Ltd., sports pavilion and caretaker's dwelling, at Messrs. Smiths Dock Co.'s Recreation Park, Harton.

STOURBRIDGE.—Plans passed by T.C.: House, Heath-street, for Mrs. W. Canadine; house, Greenfield-avenue, for Mr. T. D. Sacker.

STRETFORD.—Plans passed by U.D.C.: Two houses, Brooks-road, for Mr. Henry Kirby; conversion to shop, 9, Henrietta-street, for Mr. J. W. Powell; twelve houses, St. John's-road, for the Artistic Housing Co., Ltd.; three houses and garages, Grange-avenue, for Mr. John Maunders; addition to club, Moss-road, for Metropolitan-Vickers Electrical Co., Ltd.; substation, Trafford Park Works, for Metropolitan-Vickers Electrical Co., Ltd.

TREDEGAR.—The U.D.C. has instructed the Surveyor to report on the practicability of converting the cemetery waiting-room to a habitation. The Clerk reported on housing conditions in the administrative area, and recommended a deputation should wait on the Ministry of Health to point out the urgent need of sanction to erect further houses under the assisted scheme. In a letter to the U.D.C., the captain of the local fire brigade insists on the need for a new and properly equipped fire station; there is strong local support for the suggestion, and the Council decided to appoint a committee to go into plans and specifications for erecting a station on the site of two cottages purchased some time ago for demolition.——The U.D.C. has decided to confer with a deputation from the Workmen's Public Institute and Library Committee on the proposal to make structural alterations to the building and erect swimming baths, &c. The Council are asked to subscribe, and a grant from Miners' Welfare Fund Committee is solicited.——The U.D.C. has asked the Surveyor to report on proposal for Sirhowy-road widening and to submit draft plans to County Council. The Council has decided to construct a new road to Penmark.

WALLASEY.—Plans passed by T.C.: Two houses, Marlowe-road, for Mr. W. J. B. Bellis; four garages at the rear of houses at the corner of Seaview-road, Earlston-road and Turret-road, for Dr. E. Molyneux; five houses, Bromley-road, for Messrs. Campion & Stoddart; two houses, Rullerton-road, for Mr. W. G. Bellis; three houses, Loretto-road, for Mr. W. L. Jones; two garages, 1 & 3, Knowsley-road, for Mr. A. MacDomld.

WETHERLEY.—At its last meeting the R.D.C. passed plans for a house at Bardsey, a bungalow at Collingham, and for four cottages at Wigton.

WOLVERHAMPTON.—Plans passed by T.C.: Rev. H. S. Cresswell, restoration of St. Paul's Church, Penn-road; Dr. J. W. Hamp, alterations, Jeddo-street; A. Horton, offices and store rooms, Dudley-road; K. H. Smith, two houses, Finchfield-gardens and Finchfield-road; D. Smith, extensions, Raglan-street; W. J. Holloway, house, Richmond-road; G. H. Southall, chip potato saloon, Cannock-road; Sunbeam Motor Car Co., Ltd., grandstand, Villiers-street; T. Wellings & Son, alterations, Birches Barn-road; T. Mackie & Son, two houses, Richmond-road; T. Cox, cottage, Stubbs-road.

WORKINGTON.—The Ministry of Health has sanctioned the borrowing by the T.C. of £1,076 for the repair of Oxford-street; and of £544 for the relaying of sewers in Princess-street and Vulcan's-lane.

WORTHING.—Plans passed by T.C.: Twelve dwelling houses with garages, Gannon-road, for Mr. J. H. Howard; house, Reigate-road, Mr. E. W. Sparkes, for Mr. E. Bryan; house, Grand-avenue, Mr. W. Harris, for Mr. S. James; garage, Southdown Hotel, Northcourt-road, for Mr. R. Sawyer; two dwelling houses, South-street, Tarring, for Messrs. F. Sandell & Sons; 23 houses fronting King Edward-avenue and Westbourne-avenue, for Messrs. F. Sandell and Sons; two houses fronting Brighton-road, west of Pearson's Retreat, Mr. S. G. Short, for Messrs. Dunnings, Ltd.; house, Reigate-road, Messrs. Sparkes Bros., for Mr. Burrows; house, Langton-road, Mr. J. E. Lund, for Mr. F. G. Abell; house, High-street, Mr. J. E. Lund, for Mr. A. E. Pugh; house, Heene-road, Mr. F. J. Reid, for Mr. T. Saunders; house, Grand-avenue, Messrs. Garrett & Son, for Mr. W. Bennett; timber-framed office, Broadwater-road, for Mr. A. Clare; house, Windsor-road, Mr. A. Clare, for Mr. Ramsden; three flats fronting Marine-parade, Mr. S. C. Phillips, for Mr. K. Osborne; bungalow, Heene-road, Mr. A. E. Clare, for Mr. E. Chapman; garage and store, Elm-grove, for Mr. C. D. Packer; four houses, Gannon-road, for Mr. G. Tickner; house and garage, Rowlands-road, Mr. T. R. Hyde, for Mr. W. Weller; house and garage, Grand-avenue, Mr. E. W. Sparks, for Mr. D. S. Gifford; two houses, Downview-road, for Mr. H. Hill; workroom, cloak-room and garage, 21, Chapel-road, Mr. J. E. Lund, for Mr. H. A. Webb; house, Valencia-road, Mr. J. E. Lund, for Parsons Bros.; two houses, Windsor-road, Mr. H. M. Potter, for Messrs. A. Crane & Sons; motor shed, Grand-avenue, Mr. J. I. Williams, for Mr. E. M. Nutter; house, Pavilion-road, Mr. J. E. Lund, for Mr. H. J. Johnson & Co.; additions, South-street, Messrs. Bridger & Son, for Mr. J. K. Hubbard; timber-framed garage, Georgia-avenue, Mr. A. Clare, for Mr. Stevens; addition to "Groombridge," Chancer-road, Messrs. E. Snewin & Son, for Miss Messenger; house, Wigmore-road, for Mr. C. Man; SIX houses, Gannon-road, for Messrs. Butler Bros.; house and three lock-up garages, Heene-place, for Mr. T. Peters; garage, Chapel-road, Mr. H. C. Lelliott, for Mr W. Wade; conversion of 75, Marine-parade into two maisonettes, Messrs. F. Sandell & Sons, for Dr. Mercer; porch, St. Lawrence-avenue, Mr. J. E. Lund, for Mr. H. W. Bennett.

FIRES.

HAWICK.—St. Andrew's United Free Church has been gutted by fire.

RUTHERGLEN.—An outbreak of fire has occurred in the works of the Caledonian Pottery Co., Ltd. The damage is roughly estimated at £800.

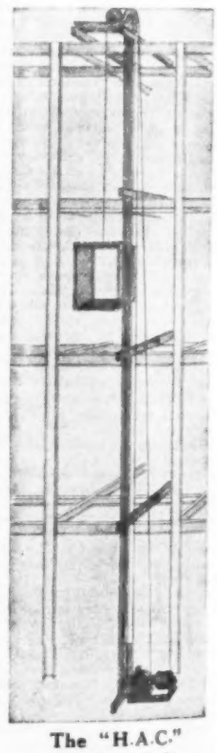
TRADE NEWS.

Messrs. Robert Ingham Clark & Co., of West Ham, recently exhibited in a Fleet-street window specimens of Tessaline floor varnish, which is manufactured by the firm for use over linoleum and wood floors in place of wax polish. Part of one of the windows displays other materials of the firms' manufacture, such as their "Pearline" enamel, and "Carmalac" enamel for use in renovating motor-car bodies.

We are informed that Boyle's latest patent "Air-Pump" ventilators have been applied to the R.A.F. Aerodrome, Flower Down, Winchester. These were supplied by Messrs. Robert Boyle & Son, Holborn-viaduct, London.

We have received a copy of *The Broad View*, a little monthly published by Messrs. Broad & Co., Ltd., 4, South Wharf, Paddington, W.2, in which the publishers give news of themselves and their products.

The builder's lift illustrated herewith has been specially designed by the Hoisting Appliance Co., of 35–39, Hornsey-road, Holloway, N.7, to eliminate the difficulty of erection and the liability to get out of order experienced with some lifts. The erection of this lift is a very simple job, and its parts are so constructed that it is almost impossible to erect it out of alignment. The cage is made in 10 cwt. and 5 cwt. sizes, and travels at pre-arranged speeds without any danger of such speeds being exceeded. The 10 cwt. type has a speed of 150 ft. per minute, travels up to 70 ft., and has a cage measuring 4 ft. by 4 ft. by 6 ft. 6 ins. high; the 5 cwt. type has a speed of 200 ft. per minute, travels up to 70 ft., and has a cage measuring 3 ft. 6 ins. by 3 ft. 6 ins. by 6 ft. 6 in. high. The cages are made of steel angle frame and corner posts, riveted and bolted together and filled with tongued and grooved boards. The guides are of steel H section with interchangeable end plates and connections. Special clip brackets are provided for fixing the guides without drilling, thus ensuring that the guides are in correct alignment for the cage and balance-weight. The gear is enclosed in an oil-tight and dust-proof case, fitted with ball bearings. The brake is applied automatically when the gearing is struck off to the neutral position. It is interesting to note that one of these lifts installed at the Crystal Palace has a lift of 275 ft., which is claimed to be the highest in Great Britain; this lift raises 10 cwt. at a speed of 200 ft. per minute.



The "H.A.C." Builders' Lift.

Messrs. R. Gay & Co., Ltd., Langthorne Works, Stratford Market, E. 15, write to say that they are giving a written guarantee to cover their impenetrable paint. The guarantee covers the durability of the paint when used on either inside or outside work, and will only be issued when the paint has been applied by the decorator.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.	£ s. d.
Best Stocks	4 2 0
Second Hard Stocks	3 17 0

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	3 1 0	Best Blue Pressed Staffs.	9 11 6
Do. grooved for plaster	3 3 0	Do. Bullnose	10 1 6
Do. Bullnose	3 16 0	Blue Wire Cuts	7 11 6
Best Stourbridge Fire bricks:—			
2½ in.	11 3 0	3 in.	13 2 0

GLAZED BRICKS—

Best White, Ivory, and Salt Glazed Stretchers	24 0 0	D'ble Str'tch'rs	32 10 0
		D'ble Headers	29 15 0
		One Side and one Ends	33 10 0
Headers	23 10 0	Two Sides and one End	34 10 0
Quoins, Bullnose and 4½in. Flats	30 10 0	Splays and Squints	32 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over whites. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.		
Thames Ballast	13 6	per yard,	delivered 2 miles radius Paddington
Fit Sand	16 0	„ „	
Thames Sand	16 6	„ „	
Best Washed Sand	16 6	„ „	
¾ in. Shingle for Ferro-Concrete	14 0	„ „	
½ in. „	15 0	„ „	
¾ in. Broken Brick	10 6	„ „	
Pan Breeze	5 6	„ „	

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification Test £3 3 0 £3 8 6
56/- alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	10 0
Roman Cement	8 15 0
Parian Cement	5 17 0
Keene's Cement, White	5 17 0
„ „ Pink	5 12 0
Plaster, Coarse, Pink	3 10 0
„ „ White	3 17 6
„ Fine	5 12 0
Sirapite, Coarse	3 16 0
„ Finish	4 4 0
Grey Stone Lime	2 16 6
Chalk Lime	2 16 6
Best Ground Blue Lias Lime	2 18 6
Hair	17 0 0
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months, carr. pd.

Stourbridge Fireclay in s'cks 37s. 6d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	3 1
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	3 4
Do. do. delivered on road wagons at Nine Elms Depot	3 5
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 7
Do. do. delivered on road wagons at above stations, per ft. cube	4 8
White basebed, 3d. per ft. cube extra.	
NOTE.—½d. ft. cube extra for every foot over 20 ft. average, and ½d. beyond 30 ft.	

YORK STONE, BLUE—*Robin Hood Quality.*

Delivered at any Goods Station London.	s. d
6 in. sawn two sides landings to sizes (under 30 ft. super.) Per Ft. Super	5 10½
6 in. rubbed two sides, ditto „	6 4½
3 in. sawn two sides slabs (random sizes) „	2 5½
2 in. to 2½ in. sawn one side slabs (random sizes) „	1 6½
1½ in. to 2 in. ditto, ditto „	1 4

HARD YORK—

Delivered at any Goods Station London.	
Scappled random blocks Per Ft. Cube	6 0
6 in. sawn two sides landing to sizes (under 40ft. super.) Per Ft. Super	5 4½
6 in. rubbed two sides ditto „	6 0½
4 in. sawn two sides slabs (random sizes) „	2 10
3 in. ditto, ditto „	2 5½
2 in. self-faced random flags Per Yard Super	8 4

ARTIFICIAL STONE.

Delivered in London Area in full van loads.	s. d.
Plain	8 6 per ft. cube.
Moulded	10 0 „ „
Cills	11 0 „ „

WOOD.

GOOD BUILDING DEAL.

Inches	per stan.	Inches	per stan.
6 × 11	£36 0	3 × 6	£22 10
4 × 9	36 0	3 × 11	32 10
4 × 8	28 0	2 × 11	32 10
4 × 7	26 0	3 × 9	30 0
3 × 8	26 0	2½ × 9	30 0
3 × 7	22 10	3 × 4½	20 10
2½ × 7	22 10	3 × 4	20 10

PLANED BOARDS.

1 × 11	40 0	1 × 9	36 0

PLAIN EDGE FLOORING.

Inches	per sq.	Inches	per sq.
½	20/-	1¼	32/6
¾	22/6	1½	40/-
1	25/-		

WOOD (*Continued*).

TONGUED AND GROOVED FLOORING Inches	per sq.	MATCHINGS (BEST). Inches	per sq.
1	25/-	½	17/6
1¼	32/6	¾	22/-
1½	40/-	1	25/-

Inches	BATTENS.	s. d.
½ × 2		2 6 per 100 ft.

SAWN LATHS

Per bundle				0	2 0
Dry Wainscot Oak, per ft. super, as inch	0	2	6 to	0	3 0
½ in. do. do.	0	1	10½ to	0	2 6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	2	3 to	0	3 0
Cuba Mahogany	0	3	6 to	0	4 0
Teak (Rangoon, Moulmein or Java), per load	45	0	0 to	50	0 0
American Whitewood planks, per ft. cube	0	16	0 to	0	18 0
Best Scotch Glue per cwt	6	15	0 to	—	
Liquid Glue, per cwt.	4	7	0 to	5	10 0

SLATES.

1st quality slates from Bangor or Portmadoc in truck loads delivered London area. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	41 17 0	18 by 10	23 12 6
22 by 12	38 0 6	18 by 9	20 16 3
22 by 11	35 2 0	16 by 10	19 16 0
20 by 12	33 8 3	16 by 8	15 8 3
20 by 10	28 11 6		

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	6 0 0
Ditto hand-made ditto	6 10 0
Ornamental ditto	6 15 0
Hip and valley tiles (per dozen) Hand made	0 8 6
Hip and valley tiles (per dozen) Machine made	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—	£ s. d.
R. S. Joists, cut and fitted	13 0 0
Plain Compound Girders	15 0 0
„ Stanchions	17 0 0
„ In Roof Work	20 0 0

WROUGHT IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £15 net value delivered direct from Works, 5 per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes. (all sizes).	Fittings, Up to 2".	Fittings, Over 2".	Flanges, Up to 2".	Flanges, Over 2"
Gas	55 %	50 %	55 %	60 %	65 %
Water	50 %	45 %	50 %	55 %	60 %
Steam	45 %	40 %	45 %	50 %	55 %
Galv'd—					
Gas	45 %	42½ %	47½ %	52½ %	57½ %
Water	37½ %	37½ %	42½ %	47½ %	52½ %
Steam	27½ %	32½ %	37½ %	42½ %	47½ %

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts plain	3 2½	2 5	2 11
2½ in. „	3 9½	2 8	3 3
3 in. „	4 5½	2 11	4 4
3½ in. „	4 10½	3 8	5 1
4 in. „	5 5	4 1	5 10

RAIN-WATER PIPES, &C.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	1 10½	1 4½	1 10½
2½ in. „	2 1	1 7½	2 2
3 in. „	2 6	2 0	3 0
3½ in. „	2 11	2 4½	3 6
4 in. „	3 5	2 10½	4 3

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices per yd. 4 in., 5/3. .. 5 in., 6/9. .. 6 in., 8/-.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common Bars	12 10 0	to	13 10 0
Staffordshire Crown Bars good merchant quality	13 10 0	..	14 10 0
Staffordshire "Marked Bars"	16 0 0	..	17 0 0
Mild Steel Bars	12 0 0	..	13 0 0
Steel Bars, Ferro-Concrete quality, basis price	12 0 0	..	13 0 0
Hoop Iron, basis price	15 0 0	..	16 0 0
„ Galvanised	29 0 0	..	31 0 0
Soft Steel Sheets, Black— Ordinary sizes to 20 g.	14 0 0	..	15 0 0
„ „ „ 24 g.	15 0 0	..	16 0 0
„ „ „ 26 g.	16 10 0	..	18 10 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality— Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	20 0 0	..	21 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.	21 0 0	..	22 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g.	23 0 0	..	25 0 0
Flat and Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 9ft. 20 g.	19 0 0	..	20 0 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	19 10 0	..	20 10 0
Ordinary sizes, 6ft. to 9ft. 26 g.	21 10 0	..	22 10 0

METALS (*Continued*).

Sheets Galvanised Flat, Best quality—	Per ton in London. £ s. d.		£ s. d.
Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	22 0 0	..	23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	23 0 0	..	25 0 0
Best Soft Steel Sheets, 26 g.	24 10 0	..	25 10 0
Cut Nails, 3in. to 6in. (under 3in. usual trade extras.)	21 10 0	..	23 0 0

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/4 to 1/7 per foot super.

LEAD, &c.

Delivered in London.

	£ s. d.		£ s. d.
LEAD—Sheet, English, 4 lb. and up	35 0 0	..	—
Pipe in coils	35 10 0	..	—
Soil Pipe	38 0 0	..	—
Compo pipe	30 0 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	21 0 0	..	—
Do., ex country, carriage forward per ton	22 0 0	..	—

COPPER— Strong Sheet per lb.	0 2 3	..	—
Thin „ „	0 2 4	..	—
Copper nails „	0 2 3	..	—
Copper wire „	0 2 4	..	—
TIN—English Ingots „	0 1 9	..	—
SOLDER—Plumbers' „	0 0 10	..	—
Tinmen's „	0 1 0	..	—
Blowpipe „	0 1 3	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	3½d.	32 oz. fourths	8½d.
„ thirds	4½d.	„ thirds	10d.
21 „ fourths	5½d.	Obscured Sheet, 15 oz.	4½d.
„ thirds	6d.	21 „	7d.
26 „ fourths	6½d.	Fluted and Enamelled 15 „	8½d.
„ thirds	7½d.	21 „	10½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½d.
⅛ Rough rolled	5½d.
¼ Rough rolled	5½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil in pipes per gallon		0 3 7
„ „ „ in barrels „		0 3 9
„ „ „ in drums „		0 4 0
Boiled „ „ in barrels „		0 4 1
„ „ „ in drums „		0 4 3
Turpentine in barrels „		0 8 0
„ in drums (10 gall.) „		0 9 0
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		54 5
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered		75 10 0
Red Lead, Dry (packages extra) per ton		38 0 0
Best Linseed Oil Putty per cwt.		0 17 0
Filocol per cwt.		0 15 6
Size. X D Quality fkn		0 3 6

VARNISHES, &c.

	Per gallon. £ s. d.		£ s. d.
Oak Varnish	Outside		0 14 0
Fine ditto	ditto		0 16 0
Fine Copal	ditto		0 18 0
Pale Copal	ditto		1 0 0
Pale Copal Carriage	ditto		1 4 0
Best ditto	ditto		1 12 0
Floor Varnish	Inside		0 18 0
Fine Pale Paper	ditto		0 18 0
Fine Copal Cabinet	ditto		1 2 6
Fine Copal flatting	ditto		1 0 6
Hard drying Oak	ditto		0 18 0
Fine Hard drying Oak	ditto		0 19 0
Fine Copal Varnish	ditto		1 0 0
Pale ditto	ditto		1 2 0
Best ditto	ditto		1 12 0
Best Japan Gold Size			0 12 0
Best Black Japan			0 14 0
Oak and Mahogany Stain (water)			0 12 0
Brunswick Black			0 9 0
Berlin Black			0 14 0
Knotting (patent)			1 5 0
French and Brush Polish			1 2 6
Liquid Dryers in Terebine			0 12 6
Cuirass Black Enamel			0 7 6

* The information given on this page has been specially compiled for THE BUILDER and is corrected to date. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	15	0
Add if in clay	" "	1	6
Add for every additional depth of 6 ft.	" "	0	9
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	" "	1	2

CONCRETOR.

Portland cement concrete in foundation 1 to 6 ..	per yard cube	40	0
Add if in underpinning in short lengths	" "	9	0
Add if in floors 6 in. thick	" "	3	9
Add if in beams	" "	4	6
Add if aggregate 1 : 2: 4	" "	11	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	3	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	34	0	0
Add if in stocks	"	8	10	0
Add if in Staffordshire blues	"	24	0	0
Add if in Portland cement and sand	"	3	0	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat strucks or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	3
Setting ordinary register grates and stoves	each	1	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	5	5	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	7	6
Three-quarter-inch vertical damp course	" "	11	0
¾ inch on flats in two thicknesses	" "	8	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	4

MASON.

		s.	d.
York stone templates fixed	per foot cube	16	3
York stone sills fixed	" "	28	6
Bath stone and all labour fixed	" "	12	0
Portland stone fixed	" "	21	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails....	per square	79	9	
Do. 20 in. × 10 in. Do. Do.	"	90	9	
Do. 24 in. × 12 in. Do. Do.	"	99	0	

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	6	
Do. joists	" "	6	0	
Do. roofs, floors and partitions	" "	6	6	
Do. trusses	" "	8	6	

		¾"	1"	1½"	2"
Deal rough close boarding	per sq.	42/-	48/-	56/-	85/-

		s.	d.
Flat centering for concrete floor, including struts or hangers .. "		60	0
Do. to beams	per ft. sup.	[illegible]	6
Centres for arches	"	[illegible]	0
Gutter boards and bearers	"	1	1

FLOORING.		¾"	1"	1½"	1½"
Deal-edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/8	2/1	2/3	2/9

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	3
Add for fitting and fixing	" "	0	6
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size	" "	4	0

DOORS.		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/4	2/7	2/9
Four-panel Do.	"	2/8	3/0	3/3
Two-panel moulded both sides	"	3/0	3/3	3/6
Four-panel Do. Do.	"	3/3	3/7	3/10

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/9	1/10	2/1
Deal shelves and bearers	"	1/6	1/8	1/11
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	17	0
Plain compound girders	"	20	0
Do. stanchions	"	23	0
In roof work	"	28	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints ..	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do. ..	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt	56	0
Do. Do. in flats	"	52	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	10
Copper nailing	" "	0	7

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	10d.	1/6	1/9	3/1	3/10	
Do. service	"	1/5	1/11	2/3	3/6		6/2
Do. soil	"					3/3	8/2
Bends in lead pipe	each						
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints ..	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	9
Do. Do. Sirapite	" "	2	11
Do. Do. Keen's	" "	4	0
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	10
Portland cement screed	" "	2	1
Do. plain face	" "	3	9
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	4

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	1
26 oz. Do.	" "	1	4
Obscured sheet	" "	1	8
⅛ in. rolled plate	" "	1	0
¼ in. rough rolled or cast plate	" "	1	1
¼ in. wired cast plate	" "	1	7

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	0
Knotting and priming	" "	0	8
Plain painting 1 coat	" "	0	11
Do. 2 coats	" "	1	7
Do. 3 coats	" "	2	4
Do. 4 coats	" "	3	0
Graining	" "	2	5
Varnishing twice	" "	1	11
Sizing	" "	0	4
Flatting	" "	0	8
Enamel	" "	1	3
Wax polishing	per foot sup.	0	9
French polishing	" "	1	3
Preparing for and hanging paper	per piece	2/- to 4/-	

* These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 11 should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than Tuesday evening.*

* Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

ASKERN.—For erection of new vestries and additions to St. Peter's Church. Messrs. Goodworth & Fox, architects, Priory-place, Doncaster :—

C. W. Squire & Son, Barnsley	£1,959 6 0
H. Boot & Sons, London	1,704 6 8
Dennis Gill & Son, Doncaster	1,697 0 0
Ward & Crossley, Carcroft	1,654 12 6
C. D. Potter, Barnsley	1,590 0 0
Firth Whittington & Co., Doncaster	1,467 5 4
J. Bryant & Son, Askern	1,420 0 0
H. Bellamy, Askern	1,369 0 0
*T. H. Wilburn, Ltd., Doncaster	1,348 1 4

BARROW.—For extensions and additions to the men's wards, outpatients' department, new mortuary, altering and enlarging three houses to form a nurses' home, enlarging the boiler house, and alterations to the administrative block, to the North Lonsdale Hospital :—

J. H. Neal & Son, Ltd.	£14,212 16 4
Banks, Gorse & Co.	13,921 16 6
J. Parkinson & Son	13,504 10 9
E. Firth	13,420 1 2
Moody & Thompson	13,419 0 0
Joe Neal	13,400 0 0
R. T. Dockeray & Co.	13,353 17 3
A. Fletcher	13,266 15 11
H. Britton	13,183 0 0
Rainey Bros., Ltd.	13,000 0 0
Turner & Strickland	12,969 13 2
W. Gradwell & Co., Ltd.	12,788 0 0
Central Heating—	
C. N. Haden & Sons, Ltd.	£2,370 0 0

BECKENHAM.—For extension of electric light station, for the U.D.C. Mr. John A. Angell, Surveyor, Council Offices, Beckenham :—

P. C. Jordan, Beckenham	£1,080
H. H. Hollingsworth & Son, Peckham	987
T. Graham & Co., Beckenham	922
E. R. Palmer & Co., Beckenham	825
Andrews & Andrews, Beckenham	790
Perry Bros., Ealing	760
*J. Elliman, Beckenham	677

BOURNEMOUTH.—Reconstruction of tramway track from (1) Horse Shoe Common to Lansdown; (2) from Fishermen's-walk to Tuckton Village; (3) from Tuckton Bridge to Christchurch, for the T.C. :—

*W. Griffiths & Co.	£31,686 19 4

BOURNEMOUTH.—Installation of heating apparatus at Moordown Depot, for the T.C. :—

*Robert Rose	£249

CARDIFF.—For erection of new business premises, Queen-street, for Messrs. Marments, Ltd. Messrs. Ivor Jones & Percy Thomas, architects, 6 and 7, St. John's-square, Cardiff :—

*Symonds & Sons, Cardiff	£26,000

CARLISLE.—For the erection of 80 houses on the Blackwell-road, for the T.C. :—

*J. E. Hill, Carlisle—40 houses	£13,642 7 6
*J. & R. Bell, Carlisle—Ditto	13,642 7 6

CHESTERFIELD.—For erection of convenience and cloakroom at Eastwood Park, for the T.C. :—

*F. Beardow	£247 7

CLAVERING.—Repairs to house and premises, for the Essex C.C. :—

*A. Clayden	£200

DONCASTER.—For widening of Hound Hill Bridge and Lane, for the R.D.C. :—

*C. Fletcher, Doncaster	£2,597

DUNMOW.—Repairs, &c., at Mountain's Farm, for the Essex C.C. :—

*T. Harris	£120

DUNMOW.—Repairs and provision of water supply at Crouches Farm, for the Essex C.C. :—

*T. A. Goodey	£135

EDINBURGH.—Installation of heating apparatus at Tramway Depot at Shrubhill, for the T.C. :—

*Mackenzie & Monam	£1,550

ELGIN.—For the erection by direct labour of motor workshops, High-street, Elgin. Mr. R. B. Pratt, A.R.I.B.A., architect, Elgin :—

Estimated cost £1,000
(The employers are paying tradesmen under supervision of architect.)

GELLYGAER.—For the erection of 12 houses at Fochriw, for the U.D.C. :—

*E. J. Davies & Co., Bargoed	£4,223

GLASGOW.—Supply of cast-iron pipes for pumping station at Mosspark, for the T.C. :—

*Macfarlane, Strang & Co.	£504 6 4

GLASGOW.—For painting work at St. Andrew's Hall, for the T.C. :—

*John Lindsay & Son	£139 7 4

GLASGOW.—Repair and glazing of 23 windows in St. Andrew's parish church, for the T.C. :—

*C. Webster	£270

HALIFAX.—Construction of wood block paving on concrete foundation in Corn Market and Southgate, for the T.C. :—

*Improved Wood Pavement Co., London	£2,550 2 6

HALIFAX.—For works at Banksfield Museum, for the T.C. :—

*E. Burrows & Sons—*Painting*	£135 14 0
*A. Pollard—*Eaves troughing*	116 14 6
*Jas. Turner—*Exhibition cases*	110 10 0
*M. Colgan—*Outside painting*	89 0 0

HALIFAX.—Erection of roof over coal bunkers at electricity works, for the T.C. :—

*Drakes, Ltd., Halifax	£112 10

HALIFAX.—Supply of 250 tons of tram rails and fishplates, for the T.C. :—

*Cargo Fleet Iron Co., Middlesbrough	£10 per ton.

HIGH WYCOMBE.—For the construction of a water supply scheme at Stokenchurch, for the R.D.C. :—

Geo. Stowe & Co.	£1,195 7 6
Hunt & Son, High Wycombe	1,140 4 3
W. E. Lee, High Wycombe	996 11 3
W. Lane, Ltd.	988 13 6
Whittaker Ellis, Ltd.	967 1 8
Percy & Tranham, Ltd., London	873 0 0
George Riley, Brierley, near Halifax	800 2 6
John Cockering & Co.	796 17 9
*Hodsons, Ltd., Nottingham	765 19 6

HOOLE.—For erection of 12 houses, for the U.D.C. Mr. Fred Davies, architect, 14, Newgate-street, Chester :—

H. E. Brown, Nottingham	£6,920 0 0
Joseph Chapman & Son, Manchester	6,390 0 0
Wm. Tilston, Chester	6,045 0 0
Russell Building Co., Manchester	5,744 0 0
J. H. Bardsley, Ltd., Manchester	5,640 0 0
Eatock & Co., Wigan	5,516 0 0
Joseph Davies, Birkenhead	5,500 0 0
Joseph Dolan & Son, Warrington	5,500 0 0
Dare & Wareing, Birmingham	5,375 0 0
Wm. Williams, Chester	5,249 18 4
G. Holmes & Co., Warrington	5,240 0 0
J. W. Kent, Colwyn Bay	5,210 16 3
J. C. Vaughan, Oswestry	5,169 0 0
Roberts & Sloss, Liverpool	4,924 0 0
F. Roberts & Sons, Ruabon	4,860 0 0
*J. H. Williams & Co., Blackpool	4,758 8 0

HULL.—For erection of the Savoy Cinema, Holderness-road, for Messrs. The Savoys (Hull), Ltd. Messrs. Blackmore, Sykes & Co., architects, Ruskin Chambers, Scale-lane, Hull :—

R. G. Tarran, Hull	£19,700
J. H. Fenwick & Co., Hull	19,313
P. T. Kettlewell, Hull	19,130
F. Bilton, Hull	19,125
Quibell & Son, Ltd., Hull	19,080
John Houlton & Son, Ltd., Hull	19,017
A. J. Darneley & Son, Ltd., Hull	18,975
T. H. Wilburn, Ltd., Doncaster	18,250
*Con. Greenwood & Sons, Ltd., Hull	18,186

KING'S WORTHY.—For restoration to the roofs of church. Mr. B. D. Cancellor, Queen Anne Chambers, Winchester :—

W. H. Paul & Son, Winchester	£282 0 0
C. Grace & Son, Andover	271 8 3
E. Carter & Son, Winchester	257 0 0
Mulhern & Welsh, Alresford	249 13 0
Wise & Lansdell, Winchester	192 0 0
H. G. Ross, Netley	181 13 0
*J. J. Axe, King's Worthy	167 9 3

LANCASTER.—For erection of 20 houses on land adjoining housing scheme, Bowerham-road, for the Health Committee. Mr. F. Hill, Borough Surveyor, Town Hall, Lancaster :—

Drainer and asphalter—	
*J. Johnson, Lancaster	£248 18 8
Bricklayer and excavator—	
*R. L. Dilworth, Lancaster	4,996 4 11
Carpenter and joiner—	
*W. Parkinson & Son, Lancaster	2,360 0 0
Plumber, glazier, &c.—	
*Barrow Bros., Lancaster	1,099 0 0
Slater and plasterer—	
*Hargreaves & Watkinson, Lancaster	1,896 10 7
Painter—	
*E. Wharton, Lancaster	260 9 6
	£10,861 3 8

LANCASTER.—Erection of twenty houses on the Scotforth housing site, for the T.C. :—

*John Parkinson & Son, Lancaster	£10,665

LHANBRYDE.—For the erection of a villa. Mr. R. B. Pratt, A.R.I.B.A., architect, Elgin :—

Davidson & Hay, Elgin—(Masons)*	
Jas. Miller, Lhanbryde—(Carpenter)*	
John Russell, Elgin—(Plumber)*	
Jas. Wilson, Lossiemouth—(Slater)*	
Colin Menzies, Lossiemouth—(Plasterer)*	
Jas. Paterson, Elgin—(Painter)*	
Total	£957

LONDON.—Relaying 5,000 super yards of woodpaving, for the Southwark B.C. :—

*Improved Wood Paving Co.—13s. per yard.	

LONDON.—Construction of new railway between Edgware and Hendon, for the Underground Co. :—

*Foundation Co., Kingsway, W.C.	£258,468

LONDON.—For supply of lime, bricks, &c., to the Southwark B.C., for six months :—

	Present Prices.	Proposed Prices.
	s. d.	s. d.
*A. H. Lavers & Co., lime	57 6	52 6
*Broad & Co., blue Staffs	195 0	165 0
*Young & Son, stock bricks	104 11	94 0
*Young & Son, Fletton bricks	70 0	64 6
*Young & Son, fire bricks	52 9	47 6
*Young & Son, red tiles	43 9	37 6
*Young & Son, slates, 20 × 10	55 0	48 4
18 × 12	53 0	45 0
24 × 12	78 10	67 0

LONDON.—For paving required during six months by the Southwark B.C. Prices quoted are the reductions on the present prices :—

*Brooks and Brooks, Ltd.—Reductions on York paving—For 3 in., 17s. 3d. to 17s. per sq. yd. For 2½ in., 15s. 6d. to 15s. 3d.	
*Patent Victoria Stone Co.—Reduction on Artificial stone—For 2 in., 7s. 9d. to 7s. 7d. per sq. yd.	
*A. & F. Manuelle, Ltd.—Reductions on flat and edge kerb of 6d. and 3d. per foot run.	

LONDON.—For construction of road at Battersea, for the Metropolitan Water Board :—

Josiah Smart & Son	£792 3 4
Chittenden & Simmonds	781 5 0
Tarmac, Ltd.	780 0 0
Tar Roads Syndicate, Ltd.	764 0 0
A. C. W. Hobman & Co.	752 0 0
J. Wainwright & Co.	746 12 6
*Constable, Hart & Co., Ltd.	715 0 0

LONDON.—For improvement at south-east corner of Greenwich Park, for the Greenwich B.C. :—

*John Mowlem & Co.	£350

LOSSIEMOUTH.—For reconstruction of golf house, Mr. R. B. Pratt, A.R.I.B.A., 110, High-street, Elgin :—

D. Forsyth & Co., Elgin—(Masons)*	
Farquhar & Son, Lossiemouth—(Carpenters)*	
Jas. Ross, Elgin—(Plumber)*	
Jas. Wilson, Lossiemouth—(Slater)*	
*Colin Menzies, Lossiemouth *(Plasterer)*	
K. McGillivray, Lossiemouth—(Painter)*	
J. Morrison, Lossiemouth—(Electrician)*	
Total	£5,100

LOUGHBOROUGH.—For the erection of 15 houses on the William-street site, for the T.C. :—

*G. W. Wainer, Nottingham	£1,657 13 5

Per block of five houses.

NANTWICH.—(1) Cast-iron water-pipes, branches, and other pieces; (2) hydrants, sluice-valves, fittings, &c.; (3) laying cast-iron water mains, for the parish of Willaston, for the R.D.C. Mr. H. Crabtree, engineer, 1, Dysart-buildings, Nantwich :—

Contract No. 1, for cast-iron pipes, &c.—	Per ton.
Stanton Ironworks Co., Ltd., Nottingham	£9 16 3
Blakeborough & Sons, Ltd., London	9 15 6
Clay Cross Co., Ltd., Chesterfield	9 15 0
Shaw (Glasgow), Ltd., Glasgow	9 12 6
*Sheepbridge Coal & Iron Co., Ltd., Chesterfield	9 12 6
Contract No 2, for sluice-valves, &c.—	
J. Stone & Co., Ltd., London	115 9 0
Sheepbridge Coal & Iron Co., Ltd., Chesterfield	114 15 6
Cochrane & Co., Ltd., Middlesbrough	109 10 0
*Blakeborough & Sons, Ltd., London	109 10 0
Contract No. 3, for excavating, &c.—	
John Taylor & Co., Manchester	797 4 0
Hanny Bros., Swansea	785 2 0
Wm. Mulcaster, Haslington, Crewe	703 19 7
*W. P. & P. G. Hayes, Warrington	633 10 0

OXFORD.—For alterations at Donnington Lodge, for the T.C. :—

Bricker Bros.	£531
Kingerlee & Sons	421
Hinkins & Frewin	410
Coppock & Roberts	402
*W. Bennett & Sons	390

PADIHAM.—For erection of 10 stone-built 3-bedroom houses, for the U.D.C. Mr. R. Ratcliffe, Council Offices, Padiham :—

National Building Guild, Ltd., Manchester—£579, Parlour Type; £517, non-Parlour Type.

NOTE.—The Ministry of Health have refused to sanction the acceptance of these tenders as, in their opinion, the cost is too high. They have asked for the size of the houses to be diminished so as to reduce the cost.

PETERHEAD.—For reconstruction and enlargement of Peterhead Academy, for the Aberdeenshire Education Authority. Mr. J. A. Ogg Allan, 25, Union-terrace, Aberdeen :—

Mason work—	
*Adam Birnie, Aberdeenshire	£2,000 0
Carpenter work (Contract No. 1)—	
*Alexander Rattray, Aberdeen	4,495 0
Carpenter work (Contract No. 2)—	
*Alexander Rattray, Aberdeen	1,494 0
Slater work—	
*C. McDonald & Sons, Aberdeen	866 10
Reinforced concrete work—	
*Clark & Chapman, Aberdeen	1,620 0

PONTEFRACT.—For erection and completion of three shops in Love-lane, for the Pontefract Industrial Co-operative Society, Ltd. Messrs. Garside & Pennington, architects and surveyors, Pontefract. Quantities by architects :—

*Co-operative Wholesale Society, Ltd., Manchester	£3,674

STRETFORD.—For supply of granite for six months, to the U.D.C.:—

	Macadam (machine broken). 2 in.	1½ in.	1 in.	Macadam (tarred). ½ in. to 2 in.
*Penmaenmawr & Trinidad Asphalte Co.	—	—	—	33s. 8d. to 31s. 8d.*
Do. Do.	—	—	—	34s. 7d. to 32s. 7d.†
				(Reinforced with Bitumen).
*Penmaenmawr & Welsh Granite Co.	19s. 4d.‡	19s. 4d.‡	19s. 4d.‡	— —
Do. Do.	18s. 6d.*	18s. 6d.*	18s. 6d.*	— —
Do. Do.	19s. 0d.†	19s. 0d.†	19s. 0d.†	— —
	¼ in. Chippings.	¼ in. Chippings and Sand.	4 in. Dressed Cubes.	5 in × 3 in. × 5 in. to 7 in. Setts.
*Penmaenmawr & Welsh Granite Co.	20s. 4d.‡	16s. 4d.‡	—	—
Do. Do.	19s. 6d.*	15s. 6d.*	68s. 8d.*	63s. 8d.*
Do. Do.	20s. 0d.†	16s. 0d.†	69s. 6d.†	64s. 6d.†

*Stretford. †Cornbrook. ‡Longford Yard.

PORTSMOUTH.—For erection of new warehouse and contingent work, for Messrs. John Palmer, Ltd., brush manufacturers, &c. Mr. Henry J. Dyer, F.S.I., M.S.A., architect and surveyor, Southsea:—

	Clear site.	In two Sections.
James Bodle, Ltd.	£12,396 ..	£12,646
E. & A. Sprigings	12,200 ..	12,450
Frank Corke & Co.	11,370 ..	11,478
G. J. Davis & Sons	10,950 ..	11,210
Samuel Salter	10,793 ..	10,943
Jno. Croad	10,680 ..	10,930
Light Bros. & Flowers, Ltd.	10,600 ..	10,812
Frank Privett	10,587 ..	10,812
Tanner Bros.	10,500 ..	10,650
James Crockerell	10,180 ..	10,530
*John Lay & Co.	10,085 ..	10,385

THAXTED.—Alterations and repairs at Miller's Farm, for the Essex C.C.:—

*W. Crossman & Son..... £302 17 6

WALLASEY.—Erection of shelter at Mill-lane, for the Tramways Committee:—

*Foster Bros., Preston £170

WALLASEY.—Pointing work at concert hall, for the T.C.:—

*H. Dodd £219

WALLASEY.—For the erection of a left luggage office, &c., on the Promenade, for the T.C.:—

*J. W. Jones..... £467

WOLVERHAMPTON.—For tar paving approaches at the Blue Coat School, for the T.C.:—

*W. Shepherd & Son..... £307 19

WOLVERHAMPTON.—For reconstruction of tramway track between Balfour-crescent and the Wergs, for the T.C.:—

*M. A. Boswell, Wolverhampton..£14,617 3 4

WOLVERHAMPTON.—Supply of 500 cast-iron pipes, for the Water Committee of the T.C.:—

*Cochrane & Co., Dudley.. £10 7 6 per ton

WORTHING.—For erection of engine-room, for the T.C.:—

Topping & Leggatt, Westminster	£644	0	0
R. Cook & Son, Crawley	565	0	0
The National Building Guild, Ltd., Brighton	528	0	0
H. Tier & Son, Worthing	498	4	9
*F. Sandell & Sons, Worthing	483	0	0

YORK.—For asbestos tiling on the roof of the exhibition building, for the T.C.:—

*J. Dodgson & Son..... £5[illegible] 10

Property Owners and Housing.

At a meeting of the Property Owners' Protection Association, held last week, Mr. Edwin Evans, L.C.C. (President), said he thought the only way to ensure an adequate supply of housing accommodation was to popularise house ownership, both for occupation and investment. The real cause of the shortage was not so much the war as the general tendency to discourage and penalise property holding. If private enterprise were to provide the houses, it must be on a commercial basis and free from Government meddlesomeness and State and municipal competition. The Government must take on the job itself and become the landlord of the people in future, or it must withdraw altogether, and leave the old economic law of supply and demand again to survive. There were no other alternatives. Property owners believed it was in the national interest that all restrictions should be removed, and not until this was accomplished would the supply of housing accommodation become equal to the demand for it. Property owners felt strongly that the limit of restricted rent should be reduced to the 1915 figures—£35 rent or rateable value in London—this covered houses up to yearly rents of £42, and in the case of flats (inclusive rents) up to about £70 per year (standard). The middle classes, for whom private enterprise was always eager to cater, should, in their own interests, encourage freedom from all restriction. It was to the interest of the middle classes to get rid of the Act as quickly as possible, because not until the Act was abolished would they get houses for the middle classes.

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